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ABSTRACT

A request by Senator John O. Pastore for an inquiry into the effect of televised crime and violence and anti-social behavior by individuals resulted in the formation of the Scientific Advisory Committee on Television and Social Behavior. The committee report consists of the conclusions reached by 12 behavioral scientists after a review of 40 original research reports and of previously available literature on the effects of televised violence on the tendency of children toward aggressive behavior. The committee considered two major sources of evidence on effects of viewing violence and aggression on TV: evidence from experimental studies, and evidence from surveys. The two sets of findings were found to converge in three respects: "a preliminary and tentative indication of a causal relation between viewing violence on TV and aggressive behavior; an indication that any such causal relation operates only on some children (who are predisposed to be aggressive); and an indication that it operates only in some environmental contexts." The committee also identified areas for future research. (SH)

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Television and Growing Up: The Impact of Televised Violence

REPORT TO THE SURGEON GENERAL

United States Public Health Service

from

The Surgeon General's Scientific Advisory Committee on Television and Social Behavior

ED057595

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TELEVISION AND GROWING UP:

THE IMPACT OF TELEVISED VIOLENCE

Report to the Surgeon General
United States Public Health Service

From the Surgeon General's Scientific Advisory Committee
on Television and Social Behavior

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LETTER OF TRANSMITTAL

January 19, 1972

Dr. Jesse L. Steinfeld
Surgeon General
Department of Health, Education, and Welfare
Washington, D.C. 20201

Dear Dr. Steinfeld:

We are pleased to transmit our report on the research available in our study of television and social behavior.

We have been careful to keep in mind that this committee was established as a scientific body. Our major concern has been to assess the research carefully and come to conclusions justified by the data.

As the report shows, this has been a very complex issue, for which there are no simple answers. We trust that this report will help to advance the understanding of these complexities.

Respectfully submitted.

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FOREWORD

This report is the result of over two years of effort by a distinguished committee of behavioral scientists. Their task has been difficult. The impact of televised violence on the viewer, as a reading of the report will show, is embedded in a complicated set of related variables.

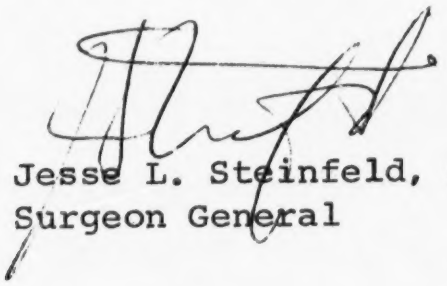
The conscientious effort by the committee to avoid an over-simplification of the problem has produced a document which may seem, at times, too technical. However, I believe that this report and the five volumes of research reports, which serve as a basis for the committee conclusions, make a major contribution to an understanding of the role of television in influencing the social behavior of children and young people.

The conclusions reached by the committee are carefully worded and merit the serious attention of all persons and groups concerned about the effects of viewing television. As the committee notes, these conclusions are based on substantially more knowledge than was available when the committee began its deliberations. But the research still leaves many questions unanswered. Without detracting from the

importance of its conclusions, the committee specifies some of these unanswered questions and urges that they be addressed in the future.

This report will undoubtedly be scrutinized carefully by people who will be looking for support for their own prior point of view. Individuals with strong convictions on either side of the question about the effects of televised violence may not be satisfied. What these individuals will fail to recognize is that this set of conclusions, for the first time in this field of inquiry, sets a solid and extensive base of evidence in an appropriate perspective. In that sense, the report and the research on which it is based represent a major contribution.

The committee is to be congratulated for the work it has done. The successful conclusion of the task is even more significant because of the explicit consensus among so broadly representative a group of scientists. I wish to commend the committee, the researchers, and the staff for a job well done.



Jesse L. Steinfeld, M.D.
Surgeon General

PREFACE

All the available statistics confirm the pervasive role television plays in the United States, if not throughout the world. More people own television sets and more people watch television than make use of any other single mode of mass communication.

It is no wonder then that television is the subject of much attention, both directly as it serves its purpose and indirectly as a source of concern to examine how well it serves its purpose. All manner of inquiry about the input of television on the lives of the American public has been and is being made. The issues about public television, cable TV, and the role of television in election campaigns are all in the news today.

The question of violence on television has been one issue that was raised almost immediately after television became a major contender for the leisure time and attention of the public. There have been a number of prior public examinations of this issue, and a number of statements and conclusions have been made.

The committee has taken into account these earlier studies in

reaching its own conclusions. We have also had the benefit of an extensive body of new data which we have carefully examined.

A great deal of work is reflected in the pages of this report and in the concurrently published five volumes of technical reports, which have served as the major source of new information. We believe this work makes a major contribution to this area of scientific inquiry, and we wish here to acknowledge our indebtedness to the researchers and staff who brought that research to a successful conclusion.

Our task has not been easy. We have tried to come to as carefully objective a conclusion as the data warranted. We suspect the debate will not end here. We are dealing with a complex and changing set of phenomena. Reassessment is inevitable as new evidence becomes available and as changes occur in what television presents and how it is presented.

Our report consists of two parts: a Summary of Findings and Conclusions and a detailed report.

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SUMMARY OF FINDINGS AND CONCLUSIONS

The work of this committee was initiated by a request from Senator John O. Pastore to Health, Education, and Welfare Secretary Robert H. Finch in which Senator Pastore said:

> I am exceedingly troubled by the lack of any definitive information which would help resolve the question of whether there is a causal connection between televised crime and violence and antisocial behavior by individuals, especially children. . . .I am respectfully requesting that you direct the Surgeon General to appoint a committee comprised of distinguished men and women from whatever professions and disciplines deemed appropriate to devise techniques and to conduct a study under his supervision using those techniques which will establish scientifically insofar as possible what harmful effects, if any, these programs have on children.

The question raised by this request has been this committee's central concern. However, the research program that was undertaken

has attempted to place this question within a larger context. For this reason, the committee's title deliberately emphasizes more than the issue of televised violence and aggressiveness and more than the question of television's harmful effects during childhood and youth.

At the same time the committee was explicitly enjoined from drawing policy conclusions. Our task has been to state the present scientific knowledge about the effects of entertainment television on children's behavior, in the hope that this knowledge may be of use to both citizens and officials concerned with policy.

The findings we will summarize represent the issues and questions treated in the body of the report. They derive primarily from the research conducted under this program but take account also of past research and other current research.

THE TELEVISION EXPERIENCE

It would be difficult to overstate the pervasiveness of television in the United States. Census data indicate that 96 percent of American homes have one or more television sets. The average home set is on more than six hours a day. Most adults report watching at least two hours daily. Most children also watch at least two hours daily. For most people, whatever their age, television viewing is a daily experience. Although not everyone watches every day, many watch for much longer than two hours.

Television viewing stands in sharp contrast to the theater, movies, and other entertainment presented outside the home in that it does not

usually involve such exclusive or focused attention. Viewers of all ages regularly engage in a wide range of activities while the set is on.

The extent to which this discontinuity of attention alters what would be perceived and understood from television were attention undivided is a moot question. Young children before the age of six usually cannot successfully divide their attention. As a result, what they get from television is probably generally restricted to what is taken in while viewing with full attention and is perceived bereft of a larger context. As the child grows older, he becomes more able to follow at least the rough continuity of what is taking place on television while he is simultaneously doing other things.

The casual acceptance of viewing, however, does not equal indifference to television. By the first grade, a majority of boys and girls exhibit individual taste in program selection and preference for characters. Among younger children, situation comedies and cartoons are most popular. Sixth graders like family situation comedies and adventure programs. Tenth graders prefer adventure programs and music and variety programs. Children and adolescents are attracted to programs featuring characters their own age.

The propensity to view television changes as the individual goes through the major stages of maturation. Frequent viewing usually begins at about age three and remains relatively high until about age 12. Then viewing typically begins to decline, reaching its low point during the teen years. When young people marry and have families, the time they spend viewing tends to increase and then remain stable through

the middle adult years. After middle age, when grown children leave home, it rises again.

Many questions about television are presently unanswerable. Three basic ones concern the future character of television, the influences and dynamics involved in the choosing of programs by individual viewers, and the underlying needs served by television that lead to its present extensive use.

It would appear that television, like other media, is progressing through a series of stages from intriguing novelty to accepted commonplace to possible differentiation as a servant of varied tastes. New developments--UHF, public television, cable, cassettes, portable minisets--suggest that in the future the programming available may become increasingly varied and that the mass audience may become a diversity of smaller segments, each with its special interests. Newspapers, magazines, and radio provide examples of similar evolution.

Why people choose to view what they do, and why they view so much, remain open questions after 20 years of commercial broadcasting. From the various rating services it is easy to determine what audiences choose to view from among what is offered. The process by which choices are made, and the basic appeal that leads to persistent viewing at all ages, remain obscure.

VIOLENCE ON TELEVISION

Studies of media content show that violence is and has been a prominent component of all mass media in the United States. Television

is no exception, and there can be no doubt that violence figures prominently in television entertainment. People are probably exposed to violence by television entertainment more than they are exposed by other media because they use television so much more.

In regard to dramatic entertainment on television, and with violence defined as "the overt expression of physical force against others or self, or the compelling of action against one's will on pain of being hurt or killed," an extensive analysis of content has found that:

--The general prevalence of violence did not change markedly between 1967 and 1969. The rate of violent episodes remained constant at about eight per hour.

--The nature of violence did change. Fatalities declined, and the proportion of leading characters engaged in violence or killing declined. The former dropped from 73 to 64 percent; the latter, from 19 to five percent. The consequence is that as many violent incidents occurred in 1969 as in 1967, but a smaller proportion of characters were involved, and the violence was far less lethal.

--Violence increased from 1967 to 1969 in cartoons and in comedies, a category that included cartoons.

--Cartoons were the most violent type of program in these years.

Another study concluded that in 1971 Saturday morning programming, which includes both cartoons and material prepared for adults, approximately three out of ten dramatic segments were "saturated" with violence and that 71 percent involved at least one instance of human violence

with or without the use of weapons.

There is also evidence that years high in violence also tend to be years high in overall ratings, and that the frequency of violent programs in a year is related to the popularity of this type of program the previous year. This suggests that televised violence fluctuates partly as a function of the efforts of commercial broadcasters to present what will be maximally popular.

TELEVISION'S EFFECTS

Television's popularity raises important questions about its social effects. There is interest and concern in regard to many segments of the population--ethnic minorities, religious groups, the old, the unwell, the poor. This committee has been principally concerned with one segment, children and youth, and in particular with the effects of televised violence on their tendencies toward aggressive behavior.

People ask behavioral scientists various questions about television and violence. In our opinion the questions are often far too narrowly drawn. For example:

(1) It is sometimes asked if watching violent fare on television <u>can</u> cause a young person to act aggressively. The answer is that, of course, under some circumstances it can. We did not need massive research to know that at least an occasional unstable individual might get sufficiently worked up by some show to act in an impetuous way. The question is faulty, for the real issue is how often it happens,

what predispositional conditions have to be there, and what different undesirable, as well as benign, forms the aggressive reaction takes when it occurs.

(2) It is sometimes asked if the fact that children watch a steady fare of violent material on television many hours a day from early childhood through adolescence causes our society to be more violent. Presumably the answer is, to some degree, "yes," but we consider the question misleading. We know that children imitate and learn from everything they see--parents, fellow children, schools, the media; it would be extraordinary, indeed, if they did not imitate and learn from what they see on television. We have some limited data that conform to our presumption. We have noted in the studies at hand a modest association between viewing of violence and aggression among at least some children, and we have noted some data which are consonant with the interpretation that violence viewing produces the aggression; this evidence is not conclusive, however, and some of the data are also consonant with other interpretations.

Yet, as we have said, the real issue is once again quantitative: how much contribution to the violence of our society is made by extensive violent television viewing by our youth? The evidence (or more accurately, the difficulty of finding evidence) suggests that the effect is small compared with many other possible causes, such as parental attitudes or knowledge of and experience with the real violence of our society.

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The sheer amount of television violence may be unimportant compared with such subtle matters as what the medium says about it: is it approved or disapproved, committed by sympathetic or unsympathetic characters, shown to be effective or not, punished or unpunished? Social science today cannot say which aspects of the portrayal of violence make a major difference or in what way. It is entirely possible that some types of extensive portrayals of violence could reduce the propensity to violence in society and that some types might increase it. In our present state of knowledge, we are not able to specify what kinds of violence portrayal will have what net result on society.

What are the alternatives? If broadcasters simply changed the quantitative balance between violent and other kinds of shows, it is not clear what the net effect would be. People hunt and choose the kinds of stimulus material they want. Violent material is popular. If our society changed in no other way than changing the balance of television offerings, people, to some degree, would still seek out violent material. How much effect a modest quantitative change in television schedules would have is now quite unanswerable. More drastic changes, such as general censorship, would clearly have wide effects, but of many kinds, and some of them distinctly undesirable.

In our judgment, the key question that we should be asked is thus a complicated one concerning alternatives. The proper question is, "What kinds of changes, if any, in television content and practices could have a significant net effect in reducing the propensity to undesirable aggression among the audience, and what other effects, desirable and undesirable, would each such change have?"

The state of our knowledge, unfortunately, is not such as to permit confident conclusions in answer to such a question. The readers of this report will find in it evidence relevant to answering such questions, but far short of an answer. The state of present knowledge does not permit an agreed answer.

EFFECTS ON AGGRESSIVENESS

Television is only one of the many factors which in time may precede aggressive behavior. It is exceedingly difficult to disentangle from other elements of an individual's life history.

Violence and aggressiveness are also not concepts on which there is unvarying consensus. This applies equally to events observed in real life or through the media and to behavior in which an individual may engage. Violence is a vague term. What seems violent to one may not seem so to another. Aggressiveness is similarly ambiguous, and its designation as antisocial depends not only on the act but also on the circumstances and the participants.

For scientific investigation, terms must be defined precisely and unambiguously. Although various investigators have used somewhat different definitions, generally both televised violence and individual aggressiveness have been defined as involving the inflicting of harm, injury, or discomfort on persons, or of damage to property. The translation of such a conception into measurement procedures has varied very widely, and whether antisocial activity is involved or implied is a matter for judgment in the specific instance.

Effects on Aggressiveness: Evidence from Experiments

Experiments have the advantage of allowing causal inference because various influences can be controlled so that the effects, if any, of one or more variables can be assessed. To varying degrees, depending on design and procedures, they have the disadvantages of artificiality and constricted time span. The generalizability of results to everyday life is a question often not easily resolvable.

Experiments concerned with the effects of violence or aggressiveness portrayed on film or television have focused principally on two different kinds of effects: imitation and instigation. Imitation occurs when what is seen is mimicked or copied. Instigation occurs when what is seen is followed by increased aggressiveness.

Imitation. One way in which a child may learn a new behavior is through observation and imitation. Some 20 published experiments document that children are capable of imitating filmed aggression shown on a movie or television screen. Capacity to imitate, however, does not imply performance. Whether or not what is observed actually will be imitated depends on a variety of situational and personal factors.

No research in this program was concerned with imitation, because the fact that aggressive or violent behavior presented on film or television can be imitated by children is already thoroughly documented.

Instigation. Some 30 published experiments have been widely interpreted as indicating that the viewing of violence on film or television by children or adults increases the likelihood of aggressive behavior. This interpretation has also been widely challenged, principally on the ground that results cannot be generalized beyond the

experimental situation. Critics hold that in the experimental situation socially inhibiting factors, such as the influence of social norms and the risk of disapproval or retaliation, are absent, and that the behavior after viewing, though labeled "aggressive," is so unlike what is generally understood by the term as to raise serious questions about the applicability of these laboratory findings to real-life behavior.

The research conducted in this program attempted to provide more precise and extensive evidence on the capacity of televised violence to instigate aggressive behavior in children. The studies variously involve whole television programs, rather than brief excerpts; the possibility of making constructive or helping, as well as aggressive, responses after viewing; and the measurement of effects in the real-life environment of a nursery school. Taken as a group, they represent an effort to take into account more of the circumstances that pertain in real life, and for that reason they have considerable cogency.

In sum. The experimental studies bearing on the effects of aggressive television entertainment content on children support certain conclusions. First, violence depicted on television can immediately or shortly thereafter induce mimicking or copying by children. Second, under certain circumstances television violence can instigate an increase in aggressive acts. The accumulated evidence, however, does not warrant the conclusion that televised violence has a uniformly adverse effect nor the conclusion that it has an adverse effect on the majority of children. It cannot even be said that the majority of the children in the various studies we have reviewed showed an increase in aggressive behavior in response to the violent fare to which they were

exposed. The evidence does indicate that televised violence may lead to increased aggressive behavior in certain subgroups of children, who might constitute a small portion or a substantial proportion of the total population of young television viewers. We cannot estimate the size of the fraction, however, since the available evidence does not come from cross-section samples of the entire American population of children.

The experimental studies we have reviewed tell us something about the characteristics of those children who are most likely to display an increase in aggressive behavior after exposure to televised violence. There is evidence that among young children (ages four to six) those most responsive to television violence are those who are highly aggressive to start with--who are prone to engage in spontaneous aggressive actions against their playmates and, in the case of boys, who display pleasure in viewing violence being inflicted upon others. The very young have difficulty comprehending the contextual setting in which violent acts are depicted and do not grasp the meaning of cues or labels concerning the make-believe character of violence episodes in fictional programs. For older children, one study has found that labeling violence on a television program as make-believe rather than as real reduces the incidence of induced aggressive behavior. Contextual cues to the motivation of the aggressor and to the consequences of acts of violence might also modify the impact of televised violence, but evidence on this topic is inconsistent.

Since a considerable number of experimental studies on the effects of televised violence have now been carried out, it seems improbable

that the next generation of studies will bring many great surprises, particularly with regard to broad generalizations not supported by the evidence currently at hand. It does not seem worthwhile to continue to carry out studies designed primarily to test the broad generalization that most or all children react to televised violence in a uniform way. The lack of uniformity in the extensive data now at hand is much too impressive to warrant the expectation that better measures of aggression or other methodological refinements will suddenly allow us to see a uniform effect.

Effects on Aggressiveness: Survey Evidence

A number of surveys have inquired into the violence viewing of young people and their tendencies toward aggressive behavior. Measures of exposure to television violence included time spent viewing, preference for violent programming, and amount of viewing of violent programs. Measures of aggressive tendencies variously involved self and others' reports of actual behavior, projected behavior, and attitudes. The behavior involved varied from acts generally regarded as heinous (e.g., arson) to acts which many would applaud (e.g., hitting a man who is attacking a woman).

All of the studies inquired into the relationship between exposure to television violence and aggressive tendencies. Most of the relationships observed were positive, but most were also of low magnitude, ranging from null relationships to correlation coefficients of about .20. A few of the observed correlation coefficients, however, reached .30 or just above.

On the basis of these findings, and taking into account their variety and their inconsistencies, we can tentatively conclude that there is a modest relationship between exposure to television violence and aggressive behavior or tendencies, as the latter are defined in the studies at hand. Two questions which follow are: (1) what is indicated by a correlation coefficient of about .30, and (2) since correlation is not in itself a demonstration of causation, what can be deduced from the data regarding causation?

Correlation coefficients of "middle range," like .30, may result from various sorts of relationships, which in turn may or may not be manifested among the majority of the individuals studied. While the magnitude of such a correlation is not particularly high, it betokens a relationship which merits further inquiry.

Correlation indicates that two variables--in this case violence viewing and aggressive tendencies--are related to each other. It does not indicate which of the two, if either, is the cause and which the effect. In this instance the correlation could manifest any of three causal sequences:

--that violence viewing leads to aggression;

--that aggression leads to violence viewing;

--that both violence viewing and aggression are products of a third condition or set of conditions.

The data from these studies are in various ways consonant with both the first and the third of these interpretations, but do not conclusively support either of the two.

Findings consonant with the interpretation that violence viewing leads to aggression include the fact that two of the correlation coefficients at the .30 level are between earlier viewing and later measured aggression. However, certain technical questions exist regarding the measures employed, and the findings can be regarded as equally consonant with the view that both violence viewing and aggression are common products of some antecedent condition or conditions.

Various candidates for such a preceding condition can be identified in the data. These include preexisting levels of aggression, underlying personality factors, and a number of aspects of parental attitudes and behavior, among them parental affection, parental punishment, parental emphasis on nonaggression, and habitual types of parent-child communication patterns. Several of these variables failed to operate statistically in a manner consonant with common origin interpretations. At least two, "parental emphasis on nonaggression" and "family communication patterns," operated in manners consonant with such an interpretation, but the pertinent data were too limited to validate common origin status for either one.

The common origin interpretation remains viable, however. Improved measures might possibly change the picture, and there is need for further and more refined investigation of the role played by personality factors and by family and peer attitudes and behaviors.

GENERAL IMPLICATIONS

The best predictor of later aggressive tendencies in some studies is the existence of earlier aggressive tendencies, whose origins may

lie in family and other environmental influences. Patterns of communication within the family and patterns of punishment of young children seem to relate in ways that are as yet poorly understood both to television viewing and to aggressive behavior. The possible role of mass media in very early acquisition of aggressive tendencies remains unknown. Future research should concentrate on the impact of media material on very young children.

As we have noted, the data, while not wholly consistent or conclusive, do indicate that a modest relationship exists between the viewing of violence and aggressive behavior. The correlational evidence from surveys is amenable to either of two interpretations: that the viewing of violence causes the aggressive behavior, or that both the viewing and the aggression are joint products of some other common source. Several findings of survey studies can be cited to sustain the hypothesis that viewing of violent television has a causal relation to aggressive behavior, though neither individually nor collectively are the findings conclusive. They could also be explained by operation of a "third variable" related to preexisting conditions.

The experimental studies provide some additional evidence bearing on this issue. Those studies contain indications that, under certain limited conditions, television viewing may lead to an increase in aggressive behavior. The evidence is clearest in highly controlled laboratory studies and considerably weaker in studies conducted under more natural conditions. Although some questions have been raised as to whether the behavior observed in the laboratory studies can be called "aggressive" in the consensual sense of the term, the studies point to

two mechanisms by which children might be led from watching television to aggressive behavior: the mechanism of imitation, which is well established as part of the behavioral repertoire of children in general; and the mechanism of incitement, which may apply only to those children who are predisposed to be susceptible to this influence. There is some evidence that incitement may follow nonviolent as well as violent materials, and that this incitement may lead to either prosocial or aggressive behavior, as determined by the opportunities offered in the experiment. However, the fact that some children behave more aggressively in experiments after seeing violent films is well established.

The experimental evidence does not suffer from the ambiguities that characterize the correlational data with regard to third variables, since children in the experiments are assigned in ways that attempt to control such variables. The experimental findings are weak in various other ways and not wholly consistent from one study to another. Nevertheless, they provide suggestive evidence in favor of the interpretation that viewing violence on television is conducive to an increase in aggressive behavior, although it must be emphasized that the causal sequence is very likely applicable only to some children who are predisposed in this direction.

Thus, there is a convergence of the fairly substantial experimental evidence for short-run causation of aggression among some children by viewing violence on the screen and the much less certain evidence from field studies that extensive violence viewing precedes some long-run manifestations of aggressive behavior. This convergence of the two types of evidence constitutes some preliminary indication of a causal

relationship, but a good deal of research remains to be done before one can have confidence in these conclusions.

The field studies, correlating different behavior among adolescents, and the laboratory studies of the responses by younger children to violent films converge also on a number of further points.

First, there is evidence that any sequence by which viewing television violence causes aggressive behavior is most likely applicable only to some children who are predisposed in that direction. While imitative behavior is shown by most children in experiments on that mechanism of behavior, the mechanism of being incited to aggressive behavior by seeing violent films shows up in the behavior only of some children who were found in several experimental studies to be previously high in aggression. Likewise, the correlations found in the field studies between extensive viewing of violent material and acting in aggressive ways seem generally to depend on the behavior of a small proportion of the respondents who were identified in some studies as previously high in aggression.

Second, there are suggestions in both sets of studies that the way children respond to violent film material is affected by the context in which it is presented. Such elements as parental explanations, the favorable or unfavorable outcome of the violence, and whether it is seen as fantasy or reality may make a difference. Generalizations about all violent content are likely to be misleading.

Thus, the two sets of findings converge in three respects: a preliminary and tentative indication of a causal relation between viewing violence on television and aggressive behavior; an indication

that any such causal relation operates only on some children (who are predisposed to be aggressive); and an indication that it operates only in some environmental contexts. Such tentative and limited conclusions are not very satisfying. They represent substantially more knowledge than we had two years ago, but they leave many questions unanswered.

Some of the areas on which future research should concentrate include: (1) Television's effects in the context of the effects of other mass media. (2) The effects of mass media in the context of individual developmental history and the totality of environmental influences, particularly that of the home environment. In regard to the relationship between televised violence and aggression, specific topics in need of further attention include: predispositional characteristics of individuals; age differences; effects of labeling, contextual cues, and other program factors; and longitudinal influences of television. (3) The functional and dysfunctional aspects of aggressive behavior in successfully adapting to life's demands. (4) The modeling and imitation of prosocial behavior. (5) The role of environmental factors, including the mass media, in the teaching and learning of values about violence, and the effects of such learning. (6) The symbolic meanings of violent content in mass media fiction, and the function in our social life of such content.

CHAPTER 1

INTRODUCTION

Previous scientific efforts to assess evidence of television's effects on youthful viewers have come to a variety of conclusions. Much testimony has been collected to support the various positions, and opinions have been strongly expressed.

At the time the work of this committee began in 1969, the most widely accepted summary evaluation of the research findings was probably that which emerged from a well-known 1961 study:

> For some children, under some conditions, some television is harmful. For other children under the same conditions, or for the same children under other conditions, it may be beneficial. For most children, under most conditions, most television is probably neither harmful nor particularly beneficial (Schramm, Lyle, and Parker, 1961).

Nevertheless, some scientific studies were finding more controversial evidence. A small body of research had concluded that "witnessing aggressive TV programs serves to reduce or control the acting out of

aggressive tendencies rather than to facilitate or stimulate aggression" (Feshbach, 1969).

Other investigators had concluded that "the observation of aggression is more likely to induce hostile behavior than to drain off aggressive inclinations" (Berkowitz, 1964).

Against this backdrop of conflicting expert opinion, the committee began its work.

HISTORY OF THE COMMITTEE

The work of this committee was initiated by a request from Senator John O. Pastore, Chairman of the Senate Subcommittee on Communications of the Senate Commerce Committee, in a letter of March 5, 1969, to Health, Education and Welfare Secretary Robert Finch, in which Senator Pastore said:

> I am exceedingly troubled by the lack of any definitive information which would help resolve the question of whether there is a causal connection between televised crime and violence and antisocial behavior by individuals, especially children....I am respectfully requesting that you direct the Surgeon General to appoint a committee comprised of distinguished men and women from whatever professions and disciplines deemed appropriate to devise techniques and to conduct a study under his supervision using those techniques which will establish scientifically insofar as possible what harmful effects, if any, these programs have on children.

On March 12, 1969, in a statement to the Communications Subcommittee, Surgeon General William H. Stewart announced that he would appoint

> an Advisory Panel of experts in the behavioral sciences, the mental health disciplines, and communications to study the effects of televised violence. Their task will be to review what is presently known, and to design and to recommend the long-range research studies which will help answer the specific questions now under discussion. The Panel members will be knowledgeable about television and violence, and, of equal importance, experts in such related areas as social psychology, communication and learning, and the etiology of emotional disturbance.

Dr. Stewart told the subcommittee that he would direct the National Institute of Mental Health to assume responsibility for the functions of the Advisory Panel and to provide technical staff for the study. On April 16, 1969, HEW Secretary Finch issued a directive authorizing the formation of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior. The Secretary said the committee would confine itself solely to scientific findings and make no policy recommendations. Its approach, he said, would be similar to that of the Surgeon General's 1962-63 Committee on Smoking and Health, which limited itself to developing factual data and conclusions about the possible causal relationship between smoking and health.

"As far as this department is concerned," Secretary Finch said, "we have no mandate and no power that relate to commercial broadcasting and we do not seek any, but we do have a clear responsibility in the area of public health including the important field of mental health."

Selection of Members

In selecting the advisory panel, the Surgeon General noted that it would be a scientific group and that its credentials should be recognized by the scientific community, the broadcasting industry, and the general public.

Letters from the Surgeon General went out to a variety of academic and professional associations--including the American Sociological Association, the American Anthropological Association, the American Psychiatric Association, and the American Psychological Association. In addition, letters went to the National Association of Broadcasters, the Columbia Broadcasting System (CBS), the National Broadcasting Company (NBC), and the American Broadcasting Company (ABC). All these groups were asked to recommend knowledgeable scientists for membership on the Advisory Committee. Other distinguished social scientists, government officials, and members of the broadcasting industry were also asked for nominations.

From the dozens of names proposed by these groups and individuals, a list of 40 was drawn up by the Office of the Surgeon General. This list of "recognized experts in the behavioral sciences and mental health disciplines" was sent by the Surgeon General on April 28, 1969, to the presidents of the National Association of Broadcasters and the three national commercial broadcast networks. Dr. Stewart asked the broadcasters to indicate "which individuals, if any, you believe would not be appropriate for an impartial scientific investigation of this nature."

"I am taking this step," the Surgeon General said, "because the studies initiated by this group may involve the active collaboration of

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the television industry. I want to insure that all members of the advisory committee are acceptable to the major networks and broadcasters."

The National Association of Broadcasters and two of the networks responded by supplying a total of seven names of individuals they thought inappropriate to serve on the committee. From the remaining 33 names, 11 members were chosen. One committee member was not on the original list but was added to strengthen representation in one of the scientific disciplines.

We believe some comment on this manner of selection is in order. Most of us were unaware of the selection procedure at the time the committee was formed and we believe there was a serious error in this process. We agree that nominations should have been sought from academic and professional organizations as well as from broadcasters and other groups with relevant expertise and knowledge. However, we do not agree that any group should have been allowed to cite individuals as unacceptable. Such a procedure in effect shared responsibility for committee appointment. We do not believe such responsibility should be shared. Moreover, we feel that future government advisory committees concerned with matters of public interest should be selected in such a way that no legitimate criticism about the manner of selection can be leveled afterward, either by the public or by the committee itself.

We began our work as a committee on June 16-17, 1969. The general outline of the mode of operation of the committee and its initial activities were summarized in a brief progress report issued in November 1969 (see Appendix A).

Observations on the General Nature of Advisory Committees

While this is not the place to offer elaborate commentary on the organizational and operational problems of committees and commissions formed to examine complex social problems, some discussion is appropriate. More extended analyses have already been advanced by Lipsky (1971) and Wilson (1971).

If the following elements are present, there will almost certainly be serious controversy: (1) Present the committee with a complex question about which there is both public and scientific controversy. This is almost bound to be the case, or there would be no demand for the committee in the first place. (2) Ask the committee to arrive at unequivocal conclusions. Again, this is a likely circumstance. (3) Announce the committee formation publicly, thus emphasizing its importance and stature. (4) Give the committee a severely limited time period in which to reach its conclusions.

These four circumstances, of course, are almost inevitable attributes of the commission or committee approach to examining current social problems. They are cited, not to make excuses for the work done by such bodies, but rather to point out that these circumstances need to be recognized as another dimension of the difficulty of dealing with substantive problems in this way.

Our committee was not immune to these difficulties. The differences of opinion which have arisen during the life of this committee, about the meaning of scientific data on the issue of television and its relationship to social behavior, have been the sort expected in

any complex area of investigation. They reflect the lack of unanimity among scientists working in this area.

Comparing the task of this Advisory Committee with that of the Surgeon General's Advisory Committee on Smoking and Health may be useful. In both instances the Surgeon General convened advisory groups to examine an issue of public health. The original request from Senator Pastore asking for the convening of this group was stimulated "because of the outstanding contribution made by [the Surgeon General's] Committee through its report on smoking and health."

The Committee on Smoking and Health reached its conclusions after a comprehensive reexamination and reevaluation of existing scientific evidence. The present committee, in contrast, has had available new research specifically sponsored to provide it with additional scientific data.

The committee began its work immediately after a comprehensive examination of existing evidence in the area of televised violence had been made by the National Commission on the Causes and Prevention of Violence. Indeed, on September 23, 1969 (one day before our second committee meeting), the National Commission issued its statement on violence in television entertainment programs. That statement, the work it represented, and the reaction it received underscored the original decision to sponsor new research rather than to rely solely on reexamining preexisting material.

THE RESEARCH PROGRAM

One million dollars was made available for the support of new research, and a secretariat, the Television and Social Behavior Program, was organized within the National Institute of Mental Health to provide staff support for the work of the Advisory Committee.

The committee worked closely with the staff throughout the life of this program. However, a committee composed of individuals with other full-time responsibilities is not able to administer a large scale research program. The staff secretariat took major responsibility for finding competent investigators who were willing to undertake pertinent research within the time constraints. The staff also was responsible for selecting those proposals which seemed most likely to provide significant data and for monitoring the studies until their completion.

Research Strategy

At the outset two alternative research strategies were considered: (a) attempt to develop a single, unified research project, or (b) seek out a series of individual studies which would address a variety of related questions and which would provide an interrelated set of findings. The former did not seem feasible, given the time limits and the present state of the art in this field.

Between August 1969 and April 1970, 40 formal research proposals were submitted and reviewed for possible funding. A system of formal review, similar to that used to evaluate research contracts for the National Institutes of Health and the National Institute of Mental Health,

was instituted to select the applications to receive financial support. For the Television and Social Behavior Program, groups of four to seven senior scientists in the researcher's field of expertise met on nine occasions to review proposals. Each review committee consisted largely of social scientists in the field who were not affiliated with the Television and Social Behavior Program and senior staff members of the National Institute of Mental Health Intramural and Extramural Programs. In addition, one or two members of the Scientific Advisory Committee, functioning individually as experts, were present at most meetings. The committee as a whole did not select the research projects.

Research Projects

In the end, 23 independent projects were funded which provided a multidimensional approach to the assessment of television's effects. These 23 projects--many of which involved more than one study and sometimes more than one report--and a number of specially commissioned papers form much of the basis for our inferences and conclusions. (For a list of all reports and papers, see Appendix B.)

Although the projects vary widely in subject, scope, and approach, there were similarities among them in many instances, and the program staff and the investigators attempted to link them so that they could provide a coherent set of findings. This was done at both the investigation and interpretation levels and resulted in the review and interpretation as a group of sets of studies with common features, and in

the investigators' sharing of ideas, methods, measures, and in one instance, experimental subjects.[1]

The reports and papers were divided into five groups according to their common concerns and their theoretical and empirical orientations. One investigator in each of four groups then attempted to integrate the findings in an "overview" paper (Chaffee, 1971; Greenberg, 1971; Liebert, 1971; Lyle, 1971); an "overview" for the remaining group was prepared by the staff (Comstock, 1971). Each of these papers represents the individual author's perspective. Each of the five published volumes representing the work sponsored by the Television and Social Behavior Program is introduced by the appropriate overview paper.

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[1]In one instance, two research teams (Liebert and Baron, 1971; Ekman et al., 1971) collaborated in an experimental study to conduct very different investigations using the same subjects (children), stimulus materials (violent and nonviolent television), and dependent variable (the choosing of a response that would either allegedly help or hurt an unseen--and actually nonexistent--other child playing a game). Liebert and Baron (1971) studied the relationship between exposure to television violence and a tendency to aggress. Ekman et al. (1971) used subjects' facial expressions as they viewed to study their emotional reactions to violent and nonviolent television content, and related emotional reaction to subquent aggressive and helping behavior.

In another cooperative endeavor, surveys of adolescents in a Maryland school system were conducted by three research teams (McIntyre and Teevan, 1971; McLeod, Atkin, and Chaffee, 1971a; Ward, 1971) who shared both subjects and data collection resources. In addition, one set of investigators used the Maryland data in conjunction with data on another sample to better test the consistency of results (McLeod et al., 1971a).

To obtain a consistent criterion for assessing the amount of violence viewed by their subjects, many investigators used the violence ratings of television series arrived at by Greenberg and Gordon (1971b) in their study of television critics' and public perceptions of television violence (Baldwin and Lewis, 1971; Foulkes et al., 1971; Friedman and Johnson, 1971; Lefkowitz et al., 1971; LoSciuto, 1971; Lyle and Hoffman, 1971a; McIntyre and Teevan, 1971; McLeod et al., 1971a, 1971b; Robinson and Bachman, 1971). Several investigators made use of Gerbner's extensive

NATURE OF THE REPORT

The designation of this committee as one concerned with television and social behavior is especially significant. The committee's title emphasizes more than just the issue of violence, and more than the question of the impact of televised violence on the behavior and attitudes of children and adolescents. While the latter remained a central concern, research conducted for this program also studied such topics as the amount of time spent watching television, activities displaced or enhanced by television viewing, television advertising and viewer reactions to it, learning of specific information and role expectations from television, and the comparative effects of black and white and color television on the information learned from a television program. The research program was both strengthened and made more difficult by the effort to place the problem in a larger context; nonetheless we cannot claim that this report or the work of this reesearch program covers the entire subject of television and social behavior.

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content analysis (1971b) for a working definition of violence, and Clark and Blankenburg (1971) modified this definition for their own purposes and used his data to validate their retrospective content analysis instruments. In a similar manner, Murray (1971) used Bechtel, Achelpohl, and Akers's (1971) tapes of subjects' viewing behavior in their own living rooms as a means of perfecting interobserver reliability. Murray (1971) also used the viewing diary developed by LoSciuto (1971) to measure behavior in regard to television.

Another example of common methods concerns specific questionnaire items. Eight investigators sought to measure television content in relation to violent or deviant behavior by asking subjects to name their four favorite television shows (Bechtel et al., 1971; Chaffee and McLeod, 1971b; Friedman and Johnson, 1971; Lefkowitz et al., 1971; LoSciuto, 1971; McIntyre and Teevan, 1971; Murray, 1971; Robinson and Bachman, 1971), and many used the same wording to query subjects about the amount of time they spent viewing. The data provided by these common measures permitted the testing of patterns derived from the totality of results.

We are aware of the difficulties of obtaining unequivocal answers to many questions about television's effects on viewers. Television is only one part of a complex web of elements that may influence people's attitudes and behavior. It is difficult to design studies which isolate the effects of television content from these other variables. As a result, generalizing from laboratory experiments, surveys, or short-term studies to the long-term, real-time world can be risky.

Television and Special Subgroups

We also believe it important to note that other age groups and segments of the population may be as responsive to the influence on television as are children. For example, elderly people, especially those in homes for the aged, as well as confined or institutionalized individuals for whom television is a major recreational activity and source of information, deserve special consideration in any assessment of the effects of television viewing. But little is known about this at present. Ultimately, of course, the needs and desires of the general viewing public will also have to be included in any attempt at a comprehensive analysis and evaluation of television's influence.

The Vicarious Nature of Television Viewing

Moreover, the vicarious nature of television viewing presents another difficulty in conceptualizing the effects of television. For example, viewing televised violence is very different from being present at a violent encounter. The viewer may identify with the aggressor, but he does not himself deliver any blows or fire any weapons. He may identify with the victim, but he does not himself experience any pain,

sustain any wounds, or shed any blood. There is no way he can intervene to prevent or terminate the aggressive exchange, no way he can retaliate against the aggressor, bring the criminal to justice, succor the victim, or comfort the bereaved. His involvement is remote, detached, vicarious, and thus only partial.

The inactivity of the television viewer as a detached onlooker may itself be the essence of the television viewing experience. His detachment may contribute to his own dehumanization. On the other hand, the conscious experiencing of rich and even lurid fantasy without allowing it to spill over into unacceptable real-life behavior is generally acknowledged as characteristic of good mental health.

More than a decade ago, Bauer and Bauer (1960) commented on this issue:

> For good or ill, experience via the mass media is predominantly vicarious. Looked at from the long-range point of view of the impact of the media on the population, this fact may in itself have more profound implications (which we cannot anticipate) upon the personality of future generations than the actual content of the communications conveyed by the mass media.

Changing Technology

Equally important is the fact that we are examining television as it is today. Tomorrow's technological innovations will certainly bring changes in the medium and in the way it is used. With increased availability of UHF stations, the growth of cable television, and the development of cassette systems, there will be greatly increased potential for viewer control in selection of programs.

A CAVEAT AND A REQUEST

The very existence of this Committee is perhaps testimony to a public tendency to expect quick and easy answers to difficult problems and to abdicate responsibility by "delegating" it to institutions rather than making individual decisions. Some people, moreover, seem inclined to be moralistic about the symbolic representation of violence on television and to blame televised violence for what happens in the real world. These tendencies may lead to attributing the phenomenon of violence to simple and easily correctible factors rather than to the more complex sources in our society. We wish to emphasize, however, that we are not concerned with blame or with making moral judgments. Our concern is with scientific evidence on television's effects.

Throughout our deliberations we have been aware that television is one of the many influences which affect how people grow, learn, and behave toward their environment and toward one another. Our knowledge of the human organism--to say nothing of the social organism--is far from definitive. We have attempted to take a small step toward greater understanding of the medium of television and the implications it may have for society.

We must urge that, in addition to this formal report to the Surgeon General, the serious student of television's effects examine the reports and papers on which we have drawn. They are being published concurrently with this report to permit social scientists and others concerned with the issues involved to evaluate independently the work supported by the Television and Social Behavior Program and the validity

of the conclusions reached by this committee. This committee can do no more than offer our own interpretation and evaluation of the findings.

CHAPTER 2

VIOLENCE IN SOCIETY AND IN THE TELEVISION MEDIUM

Individual children differ in the readiness with which they can learn to be aggressive or nonaggressive; genetic and other biological factors play a role in these differences (Berkowitz, 1962; Feshbach, 1970). Most small children are capable of learning to be aggressive and nonaggressive, cooperative and rebellious, trustful and suspicious, accommodating and initiating, selfish and sharing, and constructive and destructive to varying degrees. Reinforcing and inhibiting life experiences determine which patterns are more prominently developed. The frequency and intensity of activation, associated rewards or punishment, prevailing values, and available role models influence the character of these patterns.

TELEVISION AND PERSONALITY DEVELOPMENT

In infancy, neurophysiological patterns are immature, and behavioral responses are immediate, direct, generalized, and apt to be "all or none" in character, with considerable potential for change and reversal of response. In the course of early childhood development, the maturation of central nervous system tissues and the patterning of tissue function by experience make available a wide range of direct and indirect, generalized and localized, complete and partial, immediate and delayed responses. Some patterns of response are reinforced and some are inhibited. Patterns which are reinforced at one time may be inhibited at another. In the course of training, education, and acculturation, patterns of varying intensity and complexity are developed and associated with one another, so that particular behavioral responses and roles are manifest in interactions with other persons.

Most children over ten years of age show varying degrees of shame, guilt, and inhibition associated with crying, sucking, messiness, hitting, and other behaviors which they freely and comfortably displayed in early childhood. A stimulus which reinforces a response in early childhood may inhibit the same response in later childhood when inhibitory mechanisms are more highly developed. A specific response which has been learned may be employed at one time for constructive purposes and at another time for destructive purposes. The act of hitting which initiates an assault may at other times be employed for

protection or for prevention of injustice.

The physical, intellectual, and emotional resources of adolescents; their motivation toward independence from their families, toward autonomy and development of personal identity; and their proclivities for forming groups often render them capable of successful aggressive, anti-authority behavior for the first time. While most of this behavior represents a phase in development and in this respect is prosocial in nature, it is often disquieting and disrupting to parents and other authorities who are challenged. When these interactions are poorly handled by any of the parties involved, antisocial behavior may be one result. The precise impact televised content might have at particular points in the maturation process has yet to be determined.

The complexities of developmental processes in childhood and adolescence and the variations from one individual to another make it difficult to predict the effects of any single carefully controlled stimulus upon behavior and impossible to predict fully the effects of the wide variety of visual and auditory stimuli offered in television programs. We need much more information in order to delineate the effects of televised violence upon the behavior and development of children. To obtain it, it would be necessary to conduct both short-term and longitudinal research in controlled laboratory situations and in naturalistic settings; with young people at various stages of development, of differing character, from differing cultures, in varying emotional states; using a variety of stimuli arranged in varying sequences and with variable complexity.

Many speculations are possible, but hypotheses have been tested only for very few circumstances and ages; these cannot be validly generalized to apply to ages, states, and situations different from those which were investigated.

TELEVISION AND SOCIALIZATION

The socialization process is also a complex one. For a child discovering his inner and outer world and learning to respond to each, television may be an important source of models which demonstrate when, why and how aggression can be appropriate.

Each individual lives in a comparatively circumscribed context. Communication media offer opportunities for contact with a broader spectrum of experiences. Television, with its visual and auditory impact, is capable of providing vicarious experience with lifestyles and values from many different social contexts. It also provides a setting in which a young person might learn the strategies, tactics, and techniques of aggression.

However, whether he puts to use what he learns and behaves aggressively will not depend only on what he sees or does not see on television. Nor will it depend only on what he sees or does not see in any other discrete experience in his own life. Although the causal antecedents of aggressive behavior are not fully understood, it is certain that they are diverse, numerous, and complex in their relationship to each other and to aggressiveness.

The impact of television viewing can only be fully understood when we know something about a young person's own nature, his family,

his neighborhood, his school, and other major circumstances and influences in his life. The strongly emotional experiences that occur in a child's relations with other members of the family and with peers are especially important. This is not to deny the potential importance of television. Rather, it is to say that other factors are also potentially important. These elements invariably contribute a context which influences the effects television has on the viewer.

The family, the church, the legal system, and the military, among other institutions, communicate codes, ethics, and guidelines for aggression and violence. The extent to which television reinforces or weakens these codes or guidelines is not presently known.

Commercial television in the United States has not primarily attempted to be a teaching agent; its self-chosen primary role has been to entertain. Entertainment, however--whether via television or not--may unobtrusively convey ideas, information, sentiments, and values to the members of a society. Enculturating factors and his developing conscience provide criteria that may help a young person to clarify which values and behaviors, presented in entertainment, are to be emulated in reality and which are to be kept in the realm of fantasy.

DIFFERENTIATING BETWEEN REALITY AND FANTASY

Each person in the television audience is exposed to a broad variety of stimuli. These stimuli constitute a complex continuum ranging from what was conceived of as fantasy to mediated views of reality. Each person in the audience perceives and further interprets the

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stimuli through his own patterns of ideas, values, and responses.

Perceptions, interpretations, and responses to the same stimulus not only vary from individual to individual, but also vary from time to time within the same individual. The viewer watching a cartoon or a purely fictional drama may be aware of and acknowledge the fantasy nature of the stimuli, but through primitive unconscious identification processes he may respond psychologically and physiologically as if the stimuli are real and personally involve him. States of comfort or discomfort, pleasure or pain, and even verbal communications or participating movements may be evoked.

It is possible that stimuli from a television screen in a box occupying a small portion of a room arouse neurophysiological patterns similar to or different from those aroused in interpersonal experiences with real people. We do not yet know how the neurophysiological experience associated with witnessing a fight between two real people would compare with the neurophysiological experience associated with witnessing filmed images of that fight on a television screen.

Responses of Children and Adults

Generally, infants and young children are less able than older persons to distinguish stimuli which are products of fantasy from those which are products of reality. Most children are more apt than older people to respond emotionally and physically, as well as ideationally, to their own fantasies and to the fantasies presented to them as if they were reality.

In varying degrees adults, too, may experience reactivation of patterns which were more prominent during childhood. Many elements in the emotional experiences of adults are associated with emotional experiences from their childhood, and it is not uncommon for adults to enjoy relationships, interests, and activities of which they were fond during childhood. Indeed, much of the content communicated through the media, including television, engages the "child part" of adults as well as their mature aspects.

Parental Influence

In normal parent-child interaction, the differentiating of make-believe from real is a complex and extended process at best. In the television-child setting, the task is further complicated because the child is often left largely to his own devices. To him, the difference between film clips of actual combat or a real riot, and dramatic portrayals of similar conflicts, may not always be clear. Commercials may further blur distinctions since they often consist of fantasy about real things.

If fictional violence continues to appear in television entertainment, should special steps be taken to assist children in identifying it as fiction? Can fictional violence on television play a constructive role as a psychological safety valve which vents socially unacceptable hostility by offering vicarious experience to some persons? Can televised violence stimulate psychological inhibitory mechanisms in some viewers which reduce their likelihood of imitating that behavior? Does televised violence instigate or facilitate for some viewers release

of aggressive or violent impulses? Does a high concentration of violence in televised content convey impressions of permissiveness toward or expectations of violent behavior to some persons? How do influences from family, school, religion, laws, neighborhood environment, peers, genetic, physiological and cultural factors interact with various television viewing experiences? Do the images on a television screen provide a "fantasy" stimulus quite unlike that provided by real people in the room? Which persons tend to differentiate and which tend to confuse fantasy and reality? Are these behavioral effects beneficial or detrimental, prosocial or antisocial, adaptive or maladaptive?

These are some of the many questions which have motivated systematic inquiry and scientific research on the effects of television on social behavior.

WHAT THE CONTENT OF TELEVISION REFLECTS

Television content inevitably reflects the values, the points of view, and the expectation of audience response held by those involved in the production process.

Drama, light or serious, documentaries, "specials," variety and music programs, and news are quite different types of format and in many respects involve quite different considerations. All, however, require the making of decisions as to what will be presented from the voluminous amount of potential material. The values reflected in these decisions are no less relevant because they are generally unarticulated. The decisions made take on importance because all these varieties of television fare can

structure the audience member's relationship to reality. To varying extents and in various ways, they can engage conscience, modify or mobilize opinion, and challenge or confirm beliefs.

Audience response to news programs, for example, depends to a considerable degree upon the televised content, and this depends in part on the selection and editing process. Selection of an emotionally charged part of a speech and omission of the context in which it was given might increase the audience involvement but also might contribute to false beliefs by offering an unbalanced view.

Suggestible persons may be strongly influenced or even exploited by the ideas and advice offered through television and other media. Other viewers may be freed from restrictive ideas and false beliefs to which they have been bound. Media may be used to promote conflict or to resolve it. The moderator of a panel show, for example, may help representatives of different schools of thought to fight with one another or to find common interests, to collaborate, synchronize, and harmonize their contributions.

Stereotypes

In addition to violence, an area of major concern has been television's potentiality for perpetuating, reinforcing, or modifying social stereotypes about groups defined by such criteria as sex, ethnic background, and social class.

Many children in the United States, especially those in big cities, have never met an American Indian. But American children have had endless hours of experience with "Indians" who ride horses across the

plains, stalk wagon trains, and raid camps of white soldiers. Much of what American children "know" about American Indians may well have been derived from watching television dramas and movies rerun on television.

For many years, blacks were seen usually as servants, slaves, or buffoons, less often as athletes or fighters, almost never as clergymen, physicians, teachers, attorneys, or policemen. Black Americans protested that such stereotypic portrayals conditioned other Americans to think of them as inferior to whites. This protest has now been heard, and vigorous efforts are now being made to present movie and television dramas in which black actors appear in a broad diversity of roles.

Since television may play a role in shaping opinion and attitudes, it is important to pay attention to which persons, groups, and interests are presented in a favorable light and which are presented unfavorably. Televised content can suggest who may be considered benign and who may be considered a threat to society.

The Responsibility of Decision-Making

Decisions made by persons at various levels in the television industry determine what is broadcast, when it is broadcast, and how what is broadcast is treated--from point of view to camera angle.

The media may offer an avenue of expression for a few or for many. Unfortunately, the powerful and the powerless, the wealthy and the poor, the influential elites and nonelites do not have equal access to the television cameras and microphones, and the impact of television may be differentially felt. In general, the powerful, influential, and elite have opportunity to initiate and control the content and uses of

television in ways that the powerless, the poor, and the nonelite do not. In these interactions one party's interests are often supported while the interests of other parties are sacrificed. This places an especially heavy responsibility on those who determine which aspects of reality shall be given the special salience bestowed by television treatment.

DEFINITIONS AND DIMENSIONS OF VIOLENCE

The possible effect of televised violence on the behavior and attitudes of children is the major focus of this research program. The National Commission on the Causes and Prevention of Violence (1969) in examining the history of American society made these points:

> America has always been a relatively violent nation. Considering the tumultuous historical forces that have shaped the United States, it would be astonishing were it otherwise.
>
> Since rapid social change in America has produced different forms of violence with widely varying patterns of motivation, aggression, and victimization, violence in America has waxed and waned with the social tides. The decade just ending, for example, has been one of our most violent eras--although probably not the most violent.
>
> Exclusive emphasis in a society on law enforcement rather than on a sensible balance of remedial action and enforcement tends to lead to a decaying cycle in which resistance grows and becomes ever more violent.
>
> For remedial social change to be an effective moderator of violence, the changes must command a wide measure of support throughout the community. Official efforts to impose change that

> is resisted by a dominant majority frequently prompt counter-violence.
>
> Finally, Americans have been, paradoxically, a turbulent people but have enjoyed a relatively stable republic. Our liberal and pluralistic system has historically both generated and accommodated itself to a high level of unrest, and our turmoil has reflected far more demonstration and protest than conspiracy and revolution.

Within these broad conclusions, the Commission examined the history of violence, with attention to both individual and group violence and to effects of television and other media upon these. At least two things are clear from reading the Violence Commission report, as well as the primary references on violence and aggression which the Commission used. The first is that violence has characterized our society throughout its history, and the second is that there is no simple or universal explanation of the causes of violence. In fact, there is not even a clear consensus about what constitutes violence.

What is "Violent?"

The character of an act does not, by itself, define whether the act is violent. The effect, the social context, the moral framework, the degree of legitimization, and the amount and kinds of group endorsement of the act are very relevant to the definition of violence in the real world. For example, while many societies sanction parents' use of physical force to control and train their children, the same force, employed by other persons in a different context, might be defined as violence. Although their use of force is not so widely permitted, children often employ force in their dealings with other persons--

especially other children--and in their expression of feelings. Over time, most individuals will internalize their society's moral codes and mold their behavior accordingly.

Whether or not the use of physical force will be defined as violence depends upon one's perspective and upon the context, as well as upon the nature of the act. The recipients of forceful action generally define such action as violent more readily than do initiators of the action. Thus:

--The same act may be considered violent under some circumstances and not under others.

--The same act may be judged as violent by one person and not by another.

--The same act may be generally accepted and labeled nonviolent when committed by one person but may be generally rejected as violent when committed by another.

--The same violent act may be accepted at some ages but not at others, or may be accepted among males but not among females.

--The same violent act may be rejected if one initiates it but may be approved as self-protection against another's attack.

--Violence may be accepted if it is deemed necessary to protect a person, a property, or an important belief.

--Destroying or hurting another by psychological or verbal means, which are generally more subtle than physical actions, will often not be considered as violence.

--The ethics of violence may be blunt; line-of-duty violent acts

of soldiers and police may be acceptable.

--The ethics of violence may be more subtle. It may be acceptable to hit back, but not in the groin or in the eye.

--An act by a person we like or idealize is less apt to be considered violent than the same act by a person we dislike or denigrate.

--Violence to right a wrong may be acceptable by an acknowledged official but not by ordinary citizens, some of whom may even be expected to accommodate to injustice.

Defining Aggression

Throughout this report the terms "aggression" and "violence" are employed almost always in reference to antisocial behavior. We acknowledge that this usage is neither comprehensive nor precise. However, this usage is so common that its meaning is communicated easily.

The word "aggression" has generally been associated with antisocial or destructive implications. Within psychoanalytic theory, on the other hand, aggression refers to the mobilization, organization, and application of energy to a task which may be constructive or destructive, prosocial or antisocial.

In his review of literature on effects of media portrayals of violence, Weiss (1969) noted the difficulty of arriving at a generally accepted conceptualization of aggression. A vast and varied array of behaviors may be considered aggressive, depending upon effects, upon intent, upon context, upon associated feelings and fantasies, and upon other factors. There is no agreement either among lay persons or among scientists about how fantasized aggression, verbal aggression,

and physical aggression may be compared. Nor is there agreement about what constitutes an aggressive act in real-life experiences or about the degree to which behavior measured in a laboratory is analogous to that in a naturalistic setting. Aggression against an inanimate object is not always accepted as the functional equivalent of aggression against an animate one. Would the inanimate object have been struck if it could hit back? Is aggressive behavior in play a functional equivalent of aggressive behavior with intent to harm?

Sociopolitical Aspects of Violence and Aggression

When we consider behavior within a societal context, the meaning of concepts such as "violence," "aggression," "order," and "disorder" is defined by sociopolitical processes. Similarly, decisions about the particular manner in which "violent" acts are to be handled--for example, with a "show of force" or the actual use of "deadly force" by officials--are also essentially sociopolitical in nature.

In a staff report to the Violence Commission, Skolnick (1969) discussed the political and public policy aspects of defining, labeling, and handling violence. The kind of acts which are classified as "violent," as well as those which are not so classified, vary according to who provides the definition and who has the superior resources for disseminating and enforcing his definitions. The legislative process is involved in the formulation and enactment of criminal laws and of specific penalties for engaging in behavior so defined and officially prohibited. For example, the behavioral act of killing another person does not automatically nor even necessarily constitute murder. If the

killing can officially be viewed as justified or in self-defense, for example, it will not be labeled as murder. Similarly, the young man setting fire to a Vietnamese hut may be considered a dutiful citizen and soldier; the same man burning a grocery store in New York or Chicago may be viewed as a dangerous criminal engaged in arson and related crimes.

Almost every society, including primitive societies, legitimizes for the sake of its own maintenance some aggression and violence against internal and external threats. Every society has inconsistent norms and mores. Every society talks a better, purer, more noble game than it plays. Aggression and violence are always the legitimized privilege of authority, whether it be within the setting of the family, within a tribe, or within a nation.

Some aggression and violence have been an outcome of disagreements between individuals or groups over cherished values and beliefs which, in themselves, are conflicting at times. In a competitive society, strong motivations toward productivity and rewards may lead to high standards of living for some people and exploitation, suffering, and unfairness for others. Those who focus their attention upon the productivity and the high standard of living have a legitimate basis for their approval of this process; those who focus attention upon the exploitation and unfairness have a legitimate basis for their disapproval.

People often accommodate and adjust for long periods of time to damage, injury, or psychological trauma caused by such inequities as crippling discrimination on the basis of socioeconomic status or race.

Severely destructive effects may be tolerated, but they are rarely defined as violence if they are brought about slowly enough, within a framework of accepted values and laws, and by group rather than individual action. Such legitimized and processed violence may have a large number of victims reflected in death rates, morbidity rates, vulnerability to exploitation, and other forms of human suffering.

Neglect is not considered violence even if it results in death. Sudden damage to an individual or an object is generally recognized as violence while slow, erosive damage is apt to be perceived as violence only by the victim. In like manner, one who holds, envelops, or imprisons another against his will seldom perceives the violence experienced by the one who is held.

Dimensions of Violence and the Television Industry

The television industry, in the production of programs with violent content, variously deals with or neglects these definitions and dimensions. The length of programs restricts the extent to which complexities can be developed. The beliefs, values, and definitions which exist in the minds of television decision-makers produce additional limitations in the conceptualization of violence on television. The economics of mass media lead to the presentation of violence in such a way and in such dimensions as suit the tastes of a highly heterogeneous audience. Additionally, if content is presented which is not accepted to influential persons and important public officials, problems of other kinds may develop. Thus, in many ways the practicalities of continually balancing relationships with the audience, with public officials, with

advertisers, and with numerous other interests foster limitations of various kinds on television content. Unless persuasive influences develop in new directions, the present patterns seem likely to continue, as a result of both conscious and unconscious psychological and social pressures.

DEFINING VIOLENCE FOR RESEARCH PURPOSES

Any comprehensive consideration of the issue of violence in television content must take into account as many dimensions and complexities of violence as possible, not confine itself to narrowly restricted aspects.

When violence must be defined for research purposes, however, it inevitably is stated in a restricted form. In his analysis of television content in research sponsored in this program, Gerbner (1971b) points out:

> Violence connotes a great variety of physical and mental violations, emotions, injustices, and transgressions of social and moral norms. For this study violence was defined in its strictest physical sense as an arbiter of power. Analysts were instructed to record as violent only 'the overt expression of physical force against others or self, or the compelling of action against one's will on pain of being hurt or killed.' The expression of injurious or lethal force had to be credible and real in the symbolic terms of the drama. Humorous and even farcical violence can be credible and real, even if it has a presumable comic effect. But idle threats, verbal abuse or comic gestures with no real consequences were not to be considered violent. The agent of violence could be any sort of creature, and the act could appear to be accidental as well as

> intentional. All characters serve human purposes in the symbolic realm, and accidents or even 'acts of nature' occur only on purpose in drama.

An example of what investigators considered "violent" filmed material is a specially assembled 45-minute videotape used by Greenberg and Gordon (1971c), which the authors described as follows:

> This 45-minute tape contained 75 separate scenes of violence which varied in length from five to 120 seconds. All violent sequences were scenes in which characters physically harmed themselves or another person (e.g., hitting or shooting), overtly intended such harm (e.g., shooting but missing), or physically damaged some inanimate object (e.g., smashing furniture). Scenes of yelling or shouting were also recorded as examples of verbal aggression.

Liebert and Baron (1971) employed three-and-one-half-minute action sequences from the television series The Untouchables. Stein and Friedrich (1971) used twelve 20-minute episodes of Batman or Superman as an "aggressive" television film diet in their study of four-year-olds. This illustrates the principle that violence is operationally defined by the choice of specific stimulus material.

One researcher, however, defined media violence in a very different and much broader way. Clark (1971) argues that violence can be almost imperceptible and slow as well as sudden, and that the media can be violent as well as convey violence. In Clark's view, since television is a way of learning about the worth of one's self and others, the medium does violence to blacks and other minorities by portraying them in ways that lower their self-esteem. Television violence, in his terms, is the "slow mental disintegration" that "the mass media commit by virtue of their effects on the black self-image." As a result,

Clark studies identification with television characters, because he believes that identification is the psychological process through which the violence he attributes to television is inflicted and is an index of the harmful effects of television and other influences on the well-being of minorities.

While violence defined in this manner can produce destructive effects and many victims, these effects result from the use of psychological force rather than physical force. Operational definitions of violence and aggression generally emphasize specific physical actions which cause discomfort or injury to a person or damage to property.

CHAPTER 3

SOME PROBLEMS OF RESEARCH ON THE IMPACT OF TELEVISION

A number of recurring questions arise in the process of reviewing what is known about the impact of television. Representatives of many diverse disciplines are trying to understand and formulate the effects of media experience upon human behavior. In each discipline there are diverse schools which rely upon different theories and different methods. They exist in relatively separated and isolated compartments.

In addition to these general problems, a number of specific research questions must be addressed before even tentative conclusions on the nature of television's effects can be advanced: What are the special problems associated with studying television's impact in childhood? What is the nature of the television stimulus? What are the strategies for investigating the impact of television? How much can these studies tell us about the viewer's behavior in response to television?

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BEHAVIOR IN EARLY CHILDHOOD

A large number of studies conducted over the past two decades, concerned with the years of immaturity in human beings and other species, have convinced specialists in child development that the early period of life is critically important. These studies support the age-old observation that "as the twig is bent, so the tree will grow." The child's learning during the first five or six years sets the foundation for lifelong patterns of behavior and for further learning. Attitudes and values, as well as habits of thinking and reacting to other people, are set during this formative period. Child psychologists and child psychiatrists think of the young child as especially susceptible to influence (whether for good or for ill) during the years of his life when he is vitally dependent on other individuals for his very survival and growth.

Young children are naturally curious and eager to learn all they can from life. Television is one potentially important source of knowledge, and by age two or three most American children have begun to watch and listen to television regularly (Schramm, Lyle, and Parker, 1961). However, most research studying the effects of television on children has not captured children's earliest experiences with television; instead, studies have concentrated on television's influence on school-age children and on adolescents. This is unfortunate; the years before the fifth birthday, when the child is

especially open to new learning and new experiences, should be a period when television viewing might be especially influential. Earlier studies (e.g., Bandura, Ross, and Ross, 1963) have documented that three-, four-, and five-year-old children imitate specific acts (including aggressive acts) which they have observed on film, at least in experimental circumstances. In the present series of studies, which will be described below, Stein and Friedrich (1971) were again able to document indications of television's impact as early as age three.

A young child's reaction to television is potentially quite different from that of an adult. A child has only a limited range of past experience and does not have a well-established set of conceptual categories for clarifying his perceptual experiences.

Many adults assume that because children catch the fun of some adult humor, they regularly operate on a higher level of sophistication than they actually do. If the stories or scenes which appeal to each age group were explored, one would probably discover that the child relates to humor which has a concrete rather than an abstract theme. The thinking of the three- and four-year-old is not logic as the adult sees it. At that age children are still free-associating through the day. The evolution of their thinking processes has not yet reached the stage where they voluntarily or involuntarily classify, sort, select, and organize information except in very concrete and immediate terms. Certain children of superior intelligence who have had help with language and thinking in the

family context do sometimes indicate that they can at least follow simple logical arguments, and their conversation often appears to make good sense to adults. However, the conversation of the overwhelming number of three- and four-year-old children is not always sensible in adult contexts. In the same vein, the young television viewer often is unable to follow the theme of even a simple story (Klapper, 1969; Leifer and Roberts, 1971). It is unlikely that young children will understand the relatively complex motivations for and consequences of the behavior demonstrated by the television actor.

DEFINING THE TELEVISION STIMULUS

In order to assess the impact of television, we must clearly understand the nature of the television stimulus. A number of questions about television content, which raise important issues for research in this field, have been raised in earlier writings (e.g., Siegel, 1969).

To what degree is the symbolic language of television different from or similar to other "languages" such as those used in interpersonal communication, live drama, serious music, and such? Is the "language" of television entertainment fare taken seriously by audiences, or does it carry within itself a heavy discounting element because of the potential artificiality of its excesses of cordiality, good humor, sincerity, intimacy, and violence? Do audiences carefully attend to the symbols of television entertainment, or do these symbols

merely reflect on irrelevant dimensions of life and thus require nothing more than superficial or casual attention?

Is the language of television especially "vivid," as some observers suggest? While television may be more vivid than other media like newspapers, comic books, or radio, how does it compare to listening to one's father or to a live concert or to seeing a professional football game in a stadium? And if the language of television is indeed more "vivid," is it necessarily more "effective" than, let us say, reading a fairy tale or listening to a stereo recording of Peter and the Wolf?

Can distinctions between "pure" entertainment content and "pure" information content be made from content analyses alone? Much research has shown that what may be information content for some viewers may serve as entertainment content for others. Consequently, it is not easy to separate entertainment content from other types of content simply on the basis of an a priori classification scheme. Typically, television viewers in American homes are exposed to a complex mix of news, information, educational materials, advertising, propaganda, and entertainment fare. Any concern about the totality of reactions by viewers to television fare must also be concern about the totality of the symbolic stimuli to which they are exposed.

A good deal of the "violent" content found in selected televised entertainment programs refers to times, places, characters, and events that are far removed from the actual life-space of the viewers; the programs are, in truth, fantasies which have no direct explicit

application to contemporary life (e.g., the "western," "science fiction," "ghost and horror stories," the "period/costume drama"), but may in fact be symbolic of contemporary life. An interesting question arises here--namely, how and to what degree do content variables like "time of action," "type of action," and "place of action" that are removed from the current scene relate to contemporary audience reactions to this fare? Does this "distancing" of symbols serve as another discounting factor so that the viewer dismisses the materials as reflecting "just another story?" Or do these variables "wash out" and allow viewers to develop personal analogs for themselves regardless? Perhaps even more important questions are whether the young viewer perceives this "distancing," and, if so, how this perception relates to the likelihood that the child will adopt the televised behavior as a guide for his actions.

What precisely constitutes portrayals of violence on television? In one approach, mentioned in Chapter 2, violent content is described in terms of discrete manifestations of physical aggressive behavior units in television programs. The unit of measure recorded in these studies is a specific act of observable behavior (e.g., punching, kicking, shooting). Each manifest act is generally given equal weight; the acts are summed up to reflect "violent" content as such. In another approach, it is suggested that aggressive behavior in television portrayals consists of an event made up of overt or covert aggression within the context of other nonaggressive events, or of an interpersonal tactic wherein aggressive behavior of some sort (rather

than a nonaggressive tactic) is used to gain a specific end. Consequently, this unit of measure is the totality of the event or situation which includes the specific "aggressive" tactic employed. Cutting across these two approaches are considerations of (1) whether the events and interpersonal tactics are reasonably capable of being adopted by a viewer quite literally, or (2) whether the portrayed event or tactic is symbolic and can only be adopted in keeping with the viewer's individual mode of expression of aggressive behavior.

RESEARCH STRATEGIES

In order to explore the possible influences on subsequent social behavior of exposure to portrayals of violence on television, most of the studies in this program used one of two modes of investigation. One method can be described as applying the concepts and data-gathering techniques of field social survey research; the other, as applying the concepts and data-gathering techniques of the controlled laboratory experiment.

Because the techniques used in either data-gathering method--survey or laboratory experiment--have critical bearing on the outcome of research, both methods will be given detailed attention as this report progresses.

At this point it suffices to note that the distinctions between these two methods lie fundamentally in the manner in which data are gathered, rather than in the way they are ultimately analyzed and interpreted.

Essentially, the social survey seeks to determine the relationships among and between variables as they may be distributed in relatively large samples either of a universe or of specific subpopulations. In contrast, the laboratory experimental approach calls for isolating one variable and testing its influence on the behaviors of small selected groups. One of the least complex experimental designs usually is composed of (1) a group (i.e., experimental group) which is exposed to a stimulus and (2) a group matched for similarities with the experimental group (i.e., control group) which is not so exposed.

Implications of Research

Understanding the relationship between research results and free-ranging human behavior has been a persistent difficulty in attempts to apply scientific findings to the problems of daily life. Surveys and other correlational studies are usually unable to clarify sequential or causal relationships; experiments, while elucidating causality, usually require a simulation of certain behaviors in an experimental setting. Thus, each research strategy has some limitations.

In experimental studies of the impact of television in early childhood, the problem is even more acute, according to some observers, because the most definitive evidence comes from experiments in special playrooms which are somewhat strange to the child. When a child views television, he usually watches in his own home surrounded by his family; critics suggest that the things the child learns and

the behavior he demonstrates in this setting are quite different from what he learns and how he behaves in a special playroom.[1] Some specialists concerned with the growth and development of children, on the other hand, believe that there is no clear distinction among settings for studying a child's behavior. They maintain that, for young children, the playground, the nursery school, and the playroom with a television set are not artificial but rather are part of the child's natural daily environment. Therefore, they hold, the behavior demonstrated in these settings can indeed be considered representative of the child's free-ranging behavior.

Suspension of norms for behavior. The attempt to study the social effects of viewing television drama might be restated as the attempt to study the real-life behavior consequences of vicarious experience. This relationship between a "fantasy stimulus" and a "reality response" raises some important questions for research. Certain aspects of this issue were discussed in the preceding chapter; however, further aspects have implications for research methodology.

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[1]The playroom in which a child psychologist conducts his or her research with young children is usually a small private room furnished with a table and chairs, a rug on the floor, and various toys. When the research concerns television, the furnishings include a television receiver. Usually there is a one-way vision mirror on the wall through which observers in the adjoining room may watch the child and make records of his behavior without intruding on it. Any technical monitoring apparatus--e.g., a tape recorder--is housed in the adjacent observation room. The playroom itself is planned to be cheerful, uncomplicated, and inviting, to provide a comfortable setting for the child.

In culture after culture, for example, societies have exhibited games, entertainments, and ceremonies during which established norms for behavior are suspended; special codes which permit encroachments on norms or taboos come into force for a limited period. The requirement of truthfulness is suspended while the storyteller relates tales of youthful adventure. The prohibition of physical violence is suspended during games of contact sports. Norms for behavior between the sexes are somewhat relaxed during the Mardi Gras. In all such cases, the spectator, for a well-defined time period, enters into a moratorium on norms during which vicarious experience of otherwise unacceptable behavior is not only permitted but encouraged.

This pattern may be referred to as an "entertainment scenario," in contrast to a "reality scenario" in which a person is expected to order his behavior in compliance with approved norms for everyday living. While the entertainment scenario tends to indulge impulse, the reality scenario tends to inhibit it.

The entertainment scenario involves the assumption that socialization is well enough established that those involved can agree that during their interval of vicarious experience, everyday norms are suspended, not abolished. For example, a father and son at a football game may join in shouting to their team to commit all manner of violence against the opposing team (entertainment scenario), and the son may have a little trouble "settling down" immediately after the game. But they both know that, once they have returned home, the son's interactions with his sister must conform to a completely

different set of ground rules (reality scenario) than those which were appropriate on the playing field.

Everyday experience suggests, at the same time, that the mood established in the entertainment scenario tends to persist. The demands of the reality situation and individual personality characteristics probably influence the speed with which one moves from the entertainment scenario back to the reality scenario. The strength of the stimulus may also be a factor.

For measurement to be fully valid, these potential differences between the reality scenario and the entertainment scenario need to be taken into consideration. Unfortunately, there is little information available that bears directly on this issue.

Limitations of Research

In some research instances, it is necessary to alter or modify some aspects of the behavior studied. In research dealing with the impact of televised violence on children's aggressive behavior, the requirement that aggressive behavior be simulated is particularly important. No investigator would place a child in a setting where he could clearly harm either himself or another child. Instead, he might substitute inanimate objects like large dolls for live persons as the object of aggression. Thus, experiments on the impact of televised violence have generally focused on indicators of interpersonal aggression, such as the child's report of his feelings and attitudes about hurting another person or his behavior in striking inanimate objects. Moreover, as Weiss (1969) points out in his

review, "the testing situation is designed to give the impression that aggression is permissible if not encouraged; in the shock studies,[2] aggression is required and only the degree of aggression can vary." These considerations, as Weiss indicates, raise questions about "the propriety of referring to the responses used in the research as aggressive behavior."

There are, of course, other aspects of research which must be understood in attempting to translate the experimental findings to daily life. Where the study of children's television viewing behavior is concerned, one aspect which must be studied is the child's overall psychological state for the day as well as for the moment. If he has been getting into mischief all day long, or if his caretaker has been irritable, or if he has not been feeling well, the sight of people being attacked and punished on television could have quite a different effect on him than the same scene might on a day when he had been generally successful and when his coping skills were strong.

To some extent, these variations in background conditions can be taken into account by a research design which uses an adequate number of subjects and randomly assigns these subjects to the various treatment conditions. But other factors enter in when we try to extrapolate

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[2]Weiss refers to experiments in which subjects are directed to adninister ostensible electric shocks.

the results from experimental studies to real life. When a young child is feeling strong, confident, and cared-for, he is not so prone to confuse fantasy with reality and decide that the world is too dangerous for him to cope with. The two-, three-, or four-year-old child whose mother is in the house may watch punishment and aggression on television with more detachment or aplomb than when she is not present and when he is uncertain that he is being well cared for.

CHAPTER 4

TELEVISION CONTENT

Studies of television program content leave no doubt that among entertainment programs, violence figures prominently. There is also much violence in news programs, but the research on television content has focused mainly on dramatized entertainment programs. This focus, in itself, precluded a complete examination of the full spectrum of television and social behavior.

Television offers a remarkable variety of program content, including news, sports, music, politics, education, discussion programs, and worship services. These types of programs are scarcely mentioned in our studies, nor is any attempt made to explore their constructive contributions to American life. It is taken for granted that television programming is on the whole consonant with modal interests and values. Indeed, if it were not, it could not survive, since it is dependent on voluntary audiences.

There are few places in the United States where people receive as few as two television channels, and there are probably few individuals who, if they review the weekly schedules, will fail to find programming to suit their tastes. If they or their children spend large amounts of time viewing television, they are under no requirement to do so. The emergence of public television and of cable systems promises further extension of alternatives, further diversity of offerings.

It is widely believed that television increases children's vocabulary and extends their horizons (Steiner, 1963; Witty, 1966; Lyle and Hoffman, 1971a). At the same time, and precisely because of the enormous popularity of television programming, there is concern about the possibility of negative effects on children. This concern relates particularly to fictional violence in entertainment programs. It is primarily this concern that motivated government sponsorship of the present project, and our studies are almost exclusively addressed to its exploration.

VIOLENCE: SENT AND RECEIVED

As we noted in a previous chapter, violence takes many forms. There is verbal violence, fist fighting, violence with weapons, and there is the slapstick violence among cartoon characters. There is the violence of nature in storms, in fires, in hunting by predatory animals. There is socially approved violence (when the sheriff defeats the criminal) and disapproved violence (when the criminal holds up the

storekeeper). For reasons that are not clear, it is customary, in studies of violence in entertainment programs, to exclude the violence of football, basketball, hockey, baseball, boxing, automobile racing, skating derbies, wrestling, rodeos.

The portrayal of violence cannot be assumed to have a one-to-one relationship with the perception of violence nor with the response to it. Although we know of no studies that would justify generalizing on this point, there are reports that individual children may experience distress at the televised portrayal of a pet being wounded but apparently feel no such reaction to what many adults would consider more extreme forms of violence.

To speak of violence in television programs, then, is to speak of many things. Nevertheless, a study by Greenberg and Gordon (1971b) indicates a high degree of agreement among ratings by 303 adult audience members and 43 television critics as to which television programs are most violent. Particularly interesting is their finding that, though half of their audience sample was given a definition of violence and half was not, the rank ordering of the ratings by the two audience groups led to nearly identical lists of "most violent" programs. The definition was: "By violence, I mean how much fighting, shooting, yelling or killing there usually is in the show."

The 43 television critics were provided with this same definition of violence. Their ratings corresponded closely with those of the sample of audience members. The critics and the public agreed as to the 20 series they considered most violent.

VIOLENCE IN PROGRAMS

The most thorough study of violent content in television entertainment programs, or segments of programs, "that tell a story" has been conducted by Gerbner (1971b). His definition of an instance of violence is "the overt expression of physical force against others or self, or the compelling of action against one's will on pain of being hurt or killed." In addition to such acts as fighting, shooting, or killing, Gerbner included humorous and farcical acts, accidents, and acts of nature, so long as they appeared to be "credible and real."

Gerbner's most recent study includes findings from his two earlier studies of the same sort, thus providing comparisons between findings in 1967, 1968, and 1969. These studies are primarily devoted to the enumeration and classification of violent incidents by trained coders who watched and coded videotapes of selected network programs for one week in October for each of the three years. He points out that his study is an analysis of program content, not of effects.

Because Gerbner's findings have been inaccurately cited in several instances as referring to all network programs during the week of each year he studied, clarification of his data base is appropriate. The hours studied in Philadelphia in 1967 are shown in the following table. The hours studied in 1968 and 1969 are similar but not identical:

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	ABC	CBS	NBC
Sun.	4:00- 5:00 p.m. 7:00-10:00 p.m.	7:00- 8:00 p.m. 9:00-10:00 p.m.	7:30-10:00 p.m.
Mon.	7:30-10:00 p.m.	7:30-10:00 p.m.	7:30-10:00 p.m.
Tues.	7:30-10:00 p.m.	7:30- 8:30 p.m. 9:30-10:00 p.m.	7:30-10:00 p.m.
Wed.	7:30-10:00 p.m.	7:30-10:00 p.m.	7:30- 9:00 p.m.
Thurs.	7:30-10:00 p.m.	7:30-10:00 p.m.	7:30-10:00 p.m.
Fri.	7:30-10:00 p.m.	7:30-10:00 p.m.	7:30-10:00 p.m.
Sat.	9:00-11:00 a.m. 9:30-10:00 p.m.	9:00-11:00 a.m. 8:30-10:00 p.m.	9:00-11:00 a.m. 7:30-10:00 p.m.

News programs, variety shows, and network specials were excluded because they did not contain plots or story lines.

Within these samples, Gerbner found that:

--The general prevalence of violence did not change markedly between 1967 and 1969. The rate of violent episodes remained constant at about eight per hour.

--The nature of violence did change. Fatalities declined, and the proportion of leading characters engaged in violence or acting as killers declined. The former dropped from 73 percent to 64 percent; the latter from 19 to five percent. The consequence is that as many violent incidents occurred in 1969 as 1967, but a smaller proportion of characters were involved, and the violence was far less lethal.

--Violence increased from 1967 to 1969 in cartoons and comedies. These two program types are not mutually exclusive in Gerbner's classification system. Much of the increase in violence in comedies is attributable to the inclusion of cartoons in the comedy category.

--Cartoons were the most violent type of program. The number of cartoon programs increased, from 32 in 1967 to 38 in 1969. The percentage of these programs containing some violence increased from 94 percent in 1967 to 97 percent in 1969. Although the percentage of leading characters involved in killing declined from 14 percent in 1967 to one percent in 1969, on the average 88 percent of leading characters in cartoons were involved in violence for the 1967-69 period.

--Whereas in noncartoon shows in 1969 the agent of violence was a human being in 78 percent of the cases, in cartoons this role was depicted as human in only 23 percent of the cases. Nature, animals, and accidents are the agents of violence in more than three-quarters of the cases.

Gerbner also tried to place the violence he observed into some social and moral context by looking at its time, place, and setting and by noting the kinds of people who engaged in violence and the kinds of people who were its victims. He found that:

--In 1969, law enforcement agents appeared in four percent of the cartoon episodes and in 19 percent of the noncartoon. When they did play a role in noncartoon episodes, law enforcement agents were involved in violence in 79 percent of the cases.

--Violence is more likely to take place in the past or the future (rather than in the present) and tends to be set in exotic, far-off, or unidentifiable places (rather than in surroundings familiar to viewers).

--Violence is most frequently committed by white middle- and upper-class males, unmarried and in the young adult or middle years.

--Most televised violence occurs between strangers or slight acquaintances.

Gerbner's study combines Saturday morning programming with dramatic programs in prime time evening hours. Barcus (1971) focused on Saturday morning programming in a content analysis using a sample of 19 hours broadcast in Boston by three network stations and one independent. He found:

--In regard to broad program format categories, that commercial and promotional messages accounted for approximately 19 percent of the time; that when programs were roughly classified either as entertainment or as information, entertainment accounted for 89 percent of the time; and that 62 percent of total content consisted of animation.

--In regard to violent content, that approximately three out of ten dramatic segments were "saturated" with violence; that 71 percent had at least one instance of human violence with or without the use of weapons; and that, although in 52 percent of the segments violence was directed at humans, in only four percent did this result in death or injury.

Qualitative Aspects of Violence Portrayals

While these content analyses deal with the more readily quantifiable aspects of violence on television (e.g., How many acts? Who committed them? Where did the action take place?), they do not focus on the more qualitative aspects (e.g., Was the violent act related to character and plot development, or was it gratuitous? How vivid or gory was the act itself? What were the consequences?), which may well

have a bearing on possible deleterious effects (see Heller and Polsky, 1971).

In this connection it should be noted that the National Association of Broadcasters Television Code, the self regulatory instrument of the industry, has definite strictures on these more qualitative aspects of the presentation of violence. For example, the code stipulates: "Such subjects as violence and sex shall be presented without undue emphasis and only as required by plot development or character delineation. Crime should not be presented as attractive or as the solution to human problems and the inevitable retribution should be made clear." At another point the code states that "the detailed presentation of brutality or physical agony by sight or by sound are not permissible." Unfortunately, Gerbner's study does not indicate the extent to which these industry guidelines for mitigating possible negative effects of violent content have actually been achieved in current television programming.

POPULARITY OF VIOLENCE IN THE MEDIA

Violence, of course, has been portrayed in entertainment since the earliest dramas were sung by traveling musicians. Clark and Blankenburg's (1971) data on a variety of media--prime time television drama, movies, a family magazine, newspaper front-pages, and television news--make it clear that violence appears regularly and frequently in all media. It has been a major component of American mass media since their inception.

Because of the crude measures used and the inherent differences between media, direct comparisons among media as to violent content are not feasible. However, since people report using television much more than other media, they are presumably exposed to more fictional violence on television than in any other medium.

Clark and Blankenburg (1971), using TV Guide synopses from 1953 to 1969 as their source of information, observed some tendency for the frequency of violence in prime time evening programs to peak approximately every four years. They found no evidence that such fluctuations were related either to national crime rates (a point to which we will return) or to Congressional or other prominent criticism of violence in television. They did find evidence that is consistent with the interpretation that televised violence fluctuates as a function of the efforts of broadcasters to satisfy public taste and achieve as large an audience as possible--a .53 correlation between percent of programs classified as violent and mean Nielsen ratings for all evening programs and a .49 correlation between the average Nielsen rating of programs classified as violent in one year and the number of such programs broadcast in the following year. Thus, the years that are high in violence also tend to be high in overall ratings, and new season program formats are likely to vary according to what was popular with audiences the previous year. The investigators report that the latest violence "peak" occurred in 1967.

Heavy Viewers of Televised Violence

The remarkable popularity among the adult population of television drama that includes violence is a social reality that cannot be avoided.

In order to study the audience size and some demographic characteristics of adult viewers of television violence, Israel and Robinson (1971) analyzed marketing research data collected by W. R. Simmons and Associates. Using data from 1968, 1969, and 1970, and employing a nationally projectable sample of respondents who kept viewing diaries for two weeks, Israel and Robinson classified as heavy viewers of "violent television" those who reported viewing 8.5 hours of programs classified as violent during the two-week period in 1969-70. (Six hours was the cutoff point in 1967; in 1968 it was 7.5 hours.) Approximately 12 percent of the males and 11 percent of the females qualified as heavy violence viewers on this criterion in 1969-70.

These heavy viewers account for only about one-third of the total audience for the programs classified as "violent." These figures, projected nationally, mean that more than one-tenth of American adults watch more than four hours a week of television violence. The heavy viewers of violence are disproportionately clustered among males over 50 years old and among males with less than a full high school education.

Crime Statistics and Televised Violence

Clark and Blankenburg (1971) tested the hypothesis that crime statistics in real life might vary with the frequency of fictional crime and violence in television content. They obtained crime statistics from the Federal Bureau of Investigation, which had "recently adjusted" them for "greater reliability." The statistics showed, for example, that murder in the U.S. declined between the

1930s and the early 1960s, when it began to increase; in 1968, the most recent year for which data were reported, the murder rate had reached approximately the level of the 1930s.

The investigators found that the percentage of violent programs does not correlate with Uniform Crime Report data on violence in the U.S., on either a direct or delayed basis.

In other instances, however, media portrayals of antisocial or aggressive behavior appear to be related to similar events in the real world. For example, Siegel (1969) noted that approximately five years ago, NBC aired a Rod Serling film called The Doomsday Flight. The film revolved around a character who had placed a bomb on an airliner and then repeatedly phoned the airline company giving "hints" about the placement of the bomb. Before the broadcast ended, one airline had received a bomb threat. Within 24 hours, four more threats were reported. By the end of the following week, during which the previous threats had been reported by other media, a total of eight bomb threats had been telephoned to airline offices--a figure twice that recorded for the entire month preceding the broadcast.

In May 1971 The Doomsday Flight was rebroadcast in Australia. Subsequent events paralleled the plot of the film: several days after the broadcast, Qantas Airlines paid approximately $500,000 in ransom to protect 116 passengers aboard a flight to Hong Kong.

Bandura (1971) has suggested that the incidencé of airline hijackings may be related to news coverage of such events. He points out that no incidents of hijacking were reported in the United States

before 1961. A number of Cuban airliners, however, were hijacked from Havana to Miami during the 1957-60 period; these hijackings were given heavy media coverage. The first American plane was hijacked to Havana in 1961.

THE COMPLEXITY OF PROGRAMMING DECISIONS

That identifying and responding to general audience preferences is a major concern to broadcasters in planning programs is amply borne out by three sets of interviews with network personnel and with producers and writers of television programs (Baldwin and Lewis, 1971; Cantor, 1971; Gerbner, 1971a).

Although many among network personnel express interest in reducing violence in their programs, they feel constrained by the economic realities of broadcasting. In order to induce advertisers to finance programming, networks must draw large audiences with demographic characteristics attractive to advertisers. As both network officials and creators of programs see it, "action" is among the best, fastest, and easiest ways of attracting and keeping large audiences, and "action" is considered as almost synonymous with violence. This reality looms large and is a source of contention among both the creators of programs and the network officials who oversee and judge the programs.

A multitude of important factors and considerations--public opinion, artistic and creative concerns, economic competition, and many private psychological proclivities--impinge upon the small army

of decision-makers who decide which programs will be broadcast. We can easily surmise that, under these circumstances, whatever programs are ultimately screened are not just the products of a rational, conscious process. As ideas are thrashed out and as the creative brainstorming conferences occur, judgments are made about "what they will approve upstairs," "what the public wants (likes)," "will the advertiser buy it," and "will this ruin my artistic reputation." Each of these questions, however, gives the individual who provides the answer an opportunity to imagine that he <u>knows</u> the answer. Likewise, selective remembering and forgetting, unconscious self-serving, and just plain personal interest will bring about differences of opinion and conflicting interests. The decision-making process is complex, and the attempt to accommodate many viewpoints limits the creative freedom with which any single participant can work.

In the studies of television program regulation undertaken for this program (Baldwin and Lewis, 1971; Cantor, 1971), it is easy to see this kind of process at work. Persons at all levels of decision-making implement the conscious and unconscious notions referred to above, in their efforts to satisfy the many competing value-impositions on their work product. Though most of the people interviewed in these studies imagine they know why they do what they do, and think that they respond in rational ways, quite clearly there is a substantial amount of reaction to what "they" think and expect. "Their" views, however, may never rise to the tangible level where they can be accurately checked. We do not imply that this internal regulatory

process is peculiar to the television industry; it is characteristic of any group's decision-making process. In light of the underlying psychological processes described above, the presence of a regulatory code and/or the tendency to imagine the attitudes of "those higher up," may cause such constriction of outlook that values like "freedom of speech" may be encroached upon.

The theory that television violence is encouraged and perhaps made inevitable by the competitive economic structure of the American broadcasting industry is given some support by a set of reports describing the structure and control of television in three other developed nations: Great Britain, Israel, and Sweden (Halloran and Croll, 1971; Shinar, 1971; Dahlgren, 1971). The television offerings of different nations are difficult to compare in a meaningful way; these studies, moreover, are preliminary, and they do not claim to make definitive comparisons. They do indicate, however, that when rough comparisons are made, the proportion of violence on American television is greater than that broadcast in any of the other three nations.

In the United States, public television--which is free of competitive restrains--is in its infancy. Its financial resources (provided by government and private foundations) are very modest compared with commercial network budgets. Public television, however, represents a potential way of changing the balance of television content in directions other than those dictated by audience size.

CHAPTER 5

CHANGING PATTERNS OF TELEVISION USE

It is difficult to overstate the pervasiveness of American television. Virtually all children in the United States have television sets in their homes. TV Guide, with program listings and feature articles about television, is the largest-circulation magazine in the United States. The average home set is on more than six hours a day. Most children watch television every day and are likely to watch at least two hours daily. One research team found that, as early as the late 1950s, the typical child, during the first 16 years of life, spent, in total, as much time with television as in school (Schramm, Lyle, and Parker, 1961).

But it would be a mistake simply to equate pervasiveness with impact. Within the broad generalizations about the widespread use of television are a multiplicity of variations. While television viewing is still a family-shared experience, more than one-third of U.S. families now own more than one television set (up from one-quarter of families

five years ago). This figure is higher among larger families and among families with higher incomes and more education. The increase in multiple-set homes and the different patterns of viewing among different age groups and different ethnic and socioeconomic groups make average daily viewing time for individuals a misleading statistic.

Data from the LoSciuto (1971) survey show that most adults report watching television for at least two hours daily. Many, of course, say they watch more, while up to 20 percent of American adults say they do not watch at all on a given day. Women tend to report more viewing than men, probably because many women work at home where they have easy access to television sets.

Among children, frequent viewing begins at about age three and stays relatively high until age 12, then gradually declines. Viewing frequency reaches its low point among teenagers. With the onset of marriage and family formation, time spent viewing television increases, remaining stable through the early and middle adult years and rising once again after middle age when grown children leave home (Robinson, 1971b).

Most children watch some television every day. Like adults, most watch at least two hours a day, although many watch considerably longer. On the other hand, more than one-quarter of the sixth graders Lyle and Hoffman (1971a) studied reported that they watched no television "yesterday," and similar numbers in other age groups reported no viewing at all. But regardless of age, more than one-quarter of the children said they watched more than five hours on school days.

According to these studies, many elementary school pupils watch television before (one-fifth of Lyle and Hoffman subjects) and after (two-thirds of Lyle and Hoffman subjects) school as well as in the evening. Older children (sixth and tenth graders in the Lyle and Hoffman study) watch evening television through most of the prime time period as well as during the early evening "family" viewing period.

Several studies made before this research program was launched showed that children of lower socioeconomic status tended to spend more time watching television than children of higher economic status (e.g., Greenberg and Dervin, 1970). Some evidence from the present research (McIntyre and Teevan, 1971) supports this conclusion. Lyle and Hoffman (1971a) and McLeod et al. (1971b) found, however, that viewing differences based on socioeconomic status were minimal--much smaller than differences found in similar studies ten years ago.

THE DIFFUSION MODEL

What happens when an innovative medium of mass communication becomes universally adopted by a society?

Over the past 20 years, the medium of television has moved closer and closer to universal adoption. During this period, the phenomenon of television has evolved in much the same way radio listening evolved between the 1920s and 1940s, from a central to a peripheral activity.

When television was new in the early 1930s, viewing was group-centered, attention was focused, and interest was high. From the mid-1950s (when about half of American homes had television sets), to the mid-1960s (when more than 90 percent of homes had sets), the

nation was saturated with television broadcasting. Everyone watched, but television became less "magic" and more commonplace. An audience which may once have altered its living patterns around the new medium now seemed to reverse the process and fit the medium to their living patterns. Attention to the set has become more diffused; viewers seem to be more easily distracted (Bechtel et al., 1971; LoSciuto, 1971; Lyle and Hoffman, 1971a; Murray, 1971; Ward, 1971).

We may be entering a third evolutionary phase, one whose key characteristic is differentiation. Technological advances in miniaturization and the use of new materials have lowered the cost of television sets and made television portable and "personalizable." Multiple sets in homes make possible differentiated and specialized audiences.

As cable systems proliferate and make very large numbers of video channels available, audiences and programs may become increasingly specialized: one station may broadcast all sports, another all news, another all Spanish music and drama, and so on. In cities like New York where cable has made up to 25 channels available, we see channels specializing in stock market reports, continuous news, weather, public service announcements, and films. Future audiences may come to depend on television for very specific information and for specific types of entertainment.

Viewers' uses of television have been changing constantly ever since the medium was first introduced. As they continue to evolve in the future, we will need to develop new research approaches and new methods of evaluating the entire viewing process. A number of questions still remain unanswered. For example, how and why do viewers choose

specific programs; indeed, how do viewers choose whether to watch at all?

TO WATCH OR NOT TO WATCH

Because television is ubiquitous in America, and because so many individuals appear to spend large segments of time with the medium, there is a tendency to look upon viewing television as a rather universal, global, nonrational, automatic manifestation of behavior. To the degree that many aspects of viewing television are indeed analogous to a "habit," some surface truth rests in such observations. On the other hand, when one probes the viewing process more deeply, one recognizes quickly that all is not as simple as it appears to be.

The potential viewer of any given television program always is faced with a number of options which call for active decision-making on his part. In its crudest form, the initial option hinges on whether the potential viewer chooses to watch television at all or whether he or she will engage in some other activity. Here the initial decision turns on a variety of factors, among which are the time of day; day of the month; season; key sociodemographic attributes such as age, sex, educational level, occupation, and economic status; key "taste" considerations such as whether the potential viewer falls into either the "high," "middle," or "low-brow" rubric; and key psychophysiological variables such as fatigue, mood, need for relaxation or stimulation, need for information, ennui, or feelings of loneliness. Undoubtedly, many additional variables too numerous to cite operate in determining the initial "to view

or not to view" choice.

If after sifting through all these filters, the individual decides to view television rather than to engage in other activities, he is then faced with several secondary decisions. For example, he must choose from among a number of programs that may be available to him at any given time. In order to do this he must first find out "what's on television," by referring to newspaper or magazine program logs, by inquiring from other individuals, by remembering a previous viewing experience, or by simply twisting the television receiver dial in random fashion until he finds something of interest to him--provided, of course, that he has the option of determining what program will or will not be tuned in at a given time. At any point in this process, the potential viewer may decide that there is "nothing on television" and refrain from tuning in.

Where he finds that the receiver is in the control of others, the potential viewer is forced into still another set of decisions: to view the program chosen by someone else; to seek out another receiver over which he can exert personal control; or not to view television at all for a specified period of time.

The decision to view a given program at a given time is to a major degree dependent upon key variables of time, demographic-sociological characteristics, social milieu, personal taste, psychophysiological attributes, past experience with similar programming, content-related expectations, and the content-related gratifications the viewer derives as he watches the program in progress. Once he has tuned in a program, the viewer can choose, at any moment, either to continue watching a given

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program or not to continue. "Audience flow" data gathered by television audience measurement services show that there is considerable shifting into and out of specific programs (particularly variety programs) by substantial audiences while the program is being aired. Another alternative equally available to the viewer who finds a given tuned-in program not to his liking is to cease viewing altogether--at least temporarily.

Even after the viewer has settled into a given program for much or all of its duration, he is faced with the entire choice cycle all over again at the point of its termination. Should he continued "to watch television"--and if so, what shall he tune in, and for how long?

The fact that considerable choice can be, and probably often is, exercised in the complex matter of viewing television necessarily gets us away from the simplistic notion that television viewers are completely captive automatons whose only option is to "respond" to everything that the medium projects. Even though the alternatives offered by television are not infinite, there remains room for a certain amount of real choice on the part of viewers. Ultimately, the decisions not to watch television or not to watch particular television programs are always realistic options.

LEVELS OF ATTENTION

How does an American family watch television? Figure 1 shows what two minutes in one family's living room looked like. This minute-by-minute description of a family watching television documents the complexity of the activity we call "watching television" (or "viewing," or

TIME	Tommie	Jamie	Mother	Father
28'	He is watching TV with close attention.	Out	Out	He turns his head to ask a question. He moves the newspaper and looks back at it.
28'30"	Rests his hand on his leg. He wipes his nose with his arm and looks at his brother and father.	Returns and sits on couch. He sits all the way back with his feet stretched straight out and his hands between his thighs. He watches TV.	Enters living room carrying an article of clothing on a hanger. She glances at TV.	Looks up as Mrs. Barker passes through. (At the same time TV says, "Hey look over there." He watches TV set for ten seconds, then t turns back to newspaper. He looks up at set again. (There is marching music on TV.)
29'	Says something to Jamie and something to his father. He leaves the room after looking at them.	Watches TV intently. Answers his father's question and looks at him for a few seconds.	Carries article of clothing on hanger into another room.	Takes his hand off his head and looks at the boys. He asks something about what is on television. He then moves his legs slightly.
29'30"	Returns and sits on couch. He places one leg out and tucks the other underneath him. Wiggles his foot a little.	Flutters his feet as a swimmer does and then stops. Still watching TV.	Returns to the living room, stands in the doorway and pays no attention to TV. She seems to be clearing something from the table.	He holds the newspaper up; hard to tell if he is looking at it or at the television set.

Figure 1: Two minutes of family viewing

"exposure"). The degree of attention to the television screen is constantly varying. Bechtel et al. (1971)--from whose report the above description is taken--filmed a number of Kansas City families as they watched television. These researchers divided the activities they saw while the television set was on into six levels of attention:

1. Participating, actively responding to the television set or to others regarding content from the set.
2. Passively watching (doing nothing else).
3. Simultaneous activity (eating, knitting, etc.) while looking at the screen.
4. Positioned to watch television but reading, talking, or attending to something other than television.
5. In the viewing area but positioned away from the set in a way that would require turning to see it.
6. Not in the room and unable to see the set.

Bechtel et al. assert that up to half the time the television sets were on, the viewers they observed fell into one of the last three categories--indicating, essentially, that they did not "watch"--even though they may have reported later (via questionnaire) that they had watched the program being broadcast. Moreover, the researchers catalogued an extensive list of activities the people who did "watch" were simultaneously engaged in--activities which ranged from eating and conversing to studying and sleeping.

Lyle and Hoffman (1971a) note that students say they are likely to study while watching television. Fewer than 20 percent of the first graders Lyle and Hoffman interviewed said they never did other things while watching television. Murray (1971) reports numerous activities accompanying viewing behavior. In a study where children were observed while they watched television, eye contact with the television screen diminished markedly in a situation where the television program had to compete with other attractions like books, games, and toys (Foulkes et al., 1971).

According to this evidence, although television is omnipresent in American homes, it often does not receive the full attention of adults and older children. This observation probably does not apply, however, to young children. For example, it is difficult or even impossible for young children to monitor both a conversation and a television program.

TELEVISION'S IMPACT IN CHILDHOOD

We do not ordinarily think of family mealtimes, play in the neighborhood, and visits in other homes as "episodes of social learning," but in fact a byproduct of these activities is social learning. The fact that no one is labeled an "instructor" and the child is not labeled a "pupil" does not gainsay the fact that the child is learning in these situations. He is learning how to behave, what to do to please other people, ways that he may displease them, how to gain attention from adults, how to carry on conversational give-and-take, how men and women behave, and so forth.

How does the time a child spends watching television affect his opportunities for social learning and for direct interpersonal contact? And to what extent does social learning take place as a consequence of watching television?

The first question is more easily answered than the second. Much of the time children now spend watching television is simply the time which earlier generations of children devoted to such other media as movies, comic books, and radio (Himmelweit, Oppenheim, and Vince, 1958; Lovibond, 1967; Schramm, Lyle, and Parker, 1961). But some of it is time which formerly might have been spent in social activities, play with other children, daydreaming, listening to adult conversation, and other unsupervised activities. Important changes in children's psychological functioning may result from this redistribution of their time in waking hour experiences.

While the child is paying exclusive attention to television (and this by no means occurs universally), he is observed to be physically inactive. He has no opportunity to ask questions of those he sees on the screen. He has no need to plan what he will do next, or how he will carry out his plan of action. There is no way he can change the pace of the action on television or divert the inexorable unfolding of events before him. Whether he smiles or frowns, whether he looks puzzled or enlightened, whether he shows amusement or fright, whether he approves or disapproves, the events roll on. This is a situation very different from his usual social experiences, in which he can participate actively and directly. The events he watches on television are exciting and

attention-catching, but his own role is limited to that of a spectator or bystander.

Some evidence points to a relationship between television viewing and reduced activity (i.e., "passivity"). A study conducted in the 1950s in Great Britain (Himmelweit, Oppenheim, and Vince, 1958) found little difference in passivity among children who were viewers of television and those who were nonviewers. However, within the group of children who were television viewers, the children described as television "addicts" were likely to be somewhat more passive. Himmelweit et al. consider that the passivity is essentially a product of environmental and personality factors, but that it may be increased by the opportunities for withdrawal offered by television. Essentially similar findings are reported by Schramm, Lyle, and Parker (1961) and Murray (1971). The latter study indicates that the passive child who is a heavy television viewer at age six was also a relatively passive child at age three, but information on the three-year old's television viewing is not available.

As both Lyle and Hoffman (1971a) and Murray (1971) document, not only do children begin viewing at a very early age, but they also begin to develop program preferences and habits almost as soon as they commence viewing. By the first grade, a majority of boys and girls are already showing patterns of program selection and preference for characters.

Among the younger children (Lyle and Hoffman, 1971a) the most popular programs are situation comedies and cartoon shows. The sixth graders like family situation comedies and give increased attention to adventure programs. Tenth graders prefer adventure programs and music/

variety shows. Children of all ages are attracted to shows featuring characters their own age. All the studies reporting program preferences among black primary and secondary students show strong preferences for programs featuring blacks.

The studies in this research program which asked children or adults which programs they watch report relatively little viewing of educational programs. (Viewing figures for Sesame Street, which has won wide critical praise, were not available when most of these surveys were made. However, Lyle and Hoffman (1971a) found some evidence of sizable first-grade viewing of Sesame Street: The program's characters were more frequently recognized by first graders than were characters on several popular commercial programs. Lyle and Hoffman (1971b) also found Sesame Street was the second most frequently named as favorite program (after The Flintstones), among the preschool-age children they interviewed. This finding is all the more impressive because these were the only individual programs named by sizable proportions. According to Lyle and Hoffman, young viewers avoid news programs almost totally.

WHY PEOPLE WATCH TELEVISION

As we have pointed out, for many viewers of all ages television is a discontinuous activity. For the most part, television "fills time," but it does so in a way which many viewers feel is a useful experience (Lyle and Hoffman, 1971a; LoSciuto, 1971; Robinson, 1971b). Primarily, of course, people say they use television for relaxation and pleasure (Robinson, 1971b). A small proportion (10 percent, according to

Robinson's overview of five studies of primarily adult viewers) say they watch specifically in order to be informed or educated. But at the same time, the studies suggest, viewers believe they are learning about the world, about how to handle social situations, about how to cope with personal problems.

In several survey studies, mothers reported that they thought their children were learning from television: increasing their vocabularies, preparing for school, and learning "about life."

Precisely what they do and do not learn about life is unclear. But they certainly do learn names of products and can identify packages from commercials, according to Lyle and Hoffman (1971a), Murray (1971) and Ward (1971). A very large number of children, beginning at pre-school age, can recognize characters in television programs. (Only about 5 percent of the first graders Lyle and Hoffman surveyed, for example, did not know Gilligan of Gilligan's Island.)

Adults, as well as children, tend to identify most strongly with characters like themselves--characters of their own age, their own sex, their own race.

Most viewers, according to LoSciuto's survey, see dramatic television programs as generally realistic portrayals of the world as it is. They seem to feel that the behavior of television characters in fictional situations in dramatic programs is reasonably true-to-life and that watching these programs can give clues about socially acceptable behavior. Fifth and eighth graders in Greenberg and Gordon's (1971a, 1971c) studies reported that they thought certain portrayals of filmed violence

to be "realistic."

The children studied by Lyle and Hoffman (1971a), on the other hand, were less convinced of television's "reality." Even in first grade, about half the children expressed doubts about the realism of dramatic programs. Among older children, about one-quarter were markedly skeptical about the truthfulness of television news programs.

As a child grows older, he becomes more proficient at the task of distinguishing fantasy from reality, fact from fiction. Identifying the half-truths and the less-than-half-truths becomes important for the adolescent. Indeed, he is an expert at spotting a "phony." Lyle and Hoffman suggest that older children are very suspicious and distrustful of television commercials.

The origins of this distrust and cynicism are difficult to trace. However, one study (Ward, 1971) indicates that they are related to a "consumer awareness" formed from the child's experience with advertising generally and with television advertising specifically. More broadly viewed, they may also, in part, be a reflection of a much more widespread loss of public confidence in the institutions of our society. As a broad indicator of public confidence, a recent survey (Harris, 1971) compared attitudes toward 16 major social institutions (such as religion, education, government, labor, media, science, and business) with attitudes measured five years earlier. Without exception, public confidence in these institutions was sharply down. Thus, evidence of current skepticism is not confined to television or to the young.

While the development of skepticism may be part of normal psychological maturation, it is possible to interpret these observations in

at least two diametrically opposed ways. On the one hand, it is possible to speculate that early experiences with questionable television advertising engenders a high degree of cynicism among youthful viewers which may reflect itself ultimately in a general sense of distrust and alienation. In contrast, these kinds of early experiences may very well be viewed as helping to develop the kind of healthy skepticism that will serve to immunize viewers against propaganda.

YOUNG VIEWERS AND THEIR PARENTS

Parents usually exert little influence over their children's viewing. Our data indicate that in an overwhelming majority of families, the children control the use of the television set through the early evening (Lyle and Hoffman, 1971a; McLeod et al., 1971b). Indeed, one study reports that parents often ask advice from their children when they select early evening programs (McLeod et al., 1971b).

In their relationship with their children, parents are in a position to play the role of gatekeepers, allowing what they approve and barring what they do not. If parents exert very little control over what their children choose to view on television, it is possible that they do not disapprove of those choices too strongly. It is also possible that they wish to avoid family conflict and to prevent frustration and feelings of deprivation in their children. However, it is important to note that parental attitudes toward and comments about the content of television may have considerable power as mediating influences between the messages projected and their possible influences on young children.

It is here, rather than in the area of controlling what their children are to view in the first place, that parental gatekeeping may be of primary importance.

CHAPTER 6

TELEVISION AND VIOLENCE IN THE WORLD OF CHILDREN

The fact that young children extensively view television raises important questions about the role this medium plays in the child's life. Television can be a major force in teaching the child about the complexities of the world around him. Indeed, some producers of television drama claim that they attempt to depict many aspects of life--its problems, happiness and joy, sadness and violence. However, while most people recognize television's potential for providing the child with a broad range of experiences, there is much public concern about the possible harmful effects of television entertainment. This concern focuses on the possibility that particular aspects of television viewing will overstimulate the child, lead to disturbed sleep and nightmares, or incite the child to aggressive behavior. For example, the National Center for Health Statistics reports that a survey of the parents of approximately 7,000 children between the ages of six and 11 years indicates that the sleep disturbances of more than one out of four children are considered by the parents to be

related to television and radio programs (Roberts and Baird, 1971).

In addition, many teachers of young children, especially at the nursery school level, suggest that television viewing may have negative as well as positive aspects. While recognizing its potential for entertainment and cultural enrichment, they feel that television viewing may be a "cop-out on learning." Their view is consonant with early beliefs on the parts of some researchers that television may reduce creative or productive activities (Maccoby, 1951). Later studies indicate that the relationship between very heavy viewing and low interest in other activities may be a manifestation of preexisting personality and familial factors in the heavy viewer, and may constitute "a vicious circle" in which these factors lead to heavy viewing which in turn reduces the child's contacts with others (Himmelweit et al., 1958).

For convenience, one can differentiate between the general effects television may have on the child's intellectual and emotional life and television's more specific impact on the child's aggressive behavior. This chapter attempts to summarize and interpret the available experimental evidence on the impact of televised violence on children.

If viewing televised violence leads to an increase in the viewer's aggressive behavior, it may do so either by "teaching" novel aggressive acts which can be learned and <u>imitated</u> or by <u>instigating</u> aggressive behaviors which have previously been learned. Studies on the imitation of aggressive behavior usually focus on identifying the stimulus conditions under which a child will mimic or copy the behavior that he has just observed on television or in real life. Research on the instigation of

aggressive behavior assesses the postviewing incidence of any aggressive behaviors, not just those which mimic the behavior the child has previously viewed.

IMITATION OF MEDIA VIOLENCE

A child may acquire a new item of behavior through attentive observation. Rehearsal or practice of this new skill increases his competence. If the initial attempts are rewarded or encouraged, the child is likely to continue to perform the newly acquired behavior. If they are punished, he is less likely to persist, especially while he is under the surveillance of the punisher. Observation, imitation, then practice is a common sequence through which new behaviors enter the child's repertoire.

Throughout human history, very young children have been able to learn from imitating the behavior of others in their presence. These others might be members of the household, friends of the family, neighbors, playmates, teachers, priests, etc. With the advent of the modern pictorial media of communication, children can now also see the behavior of individuals who are not personally present but whose images are conveyed via film or television. We use the term "models" for individuals whose behavior children can observe and thus imitate, whether these individuals are personally in the child's presence or are observed by him through the media.

The child with a television set in his own home has the opportunity to observe the behavior of many diverse models. In forming impressions

of how adult males normally behave, for example, the young boy of today may rely not only on observing the behavior of his father and his uncles, the repairman and deliveryman who come to his house, his doctor, and other men in his life, but also on observing television newscasters, comedians, actors, musicians, and cowboys in westerns, and so forth. The very young child today is exposed to more different models of masculine behavior than any child in human history, in part because of the television set in his home.

Because psychologists have been concerned with the amount of aggression and violence available to children in the mass media (and particularly on television) and with the possibility that youngsters will imitate this aggression in their own behavior, many experiments have studied children's copying of aggressive behavior. Typically in these experiments, one film shows distinctive and novel aggressive behaviors, while another film--similar in length, use of color, identity of the actors, and the character of the situation--does not feature aggressive behavior. The different children who watch the two films are then compared for their aggressive behaviors in sessions conducted after the showing of the films. Careful records are made of the acts which do or do not mimic the distinctive aggressive behaviors just displayed in one of the films but not the other.

Albert Bandura pioneered studies of this sort over ten years ago. Since the publication of his original work (e.g., Bandura and Walters, 1963; Bandura, Ross, and Ross, 1961), many psychologists in the United States and abroad have conducted similar experiments. There are now

about 20 different published experiments concerned with children's imitation of filmed aggression shown on a movie or television screen (Appendix C). All of these studies demonstrate that young children can, and under some circumstances do, imitate what they observe on television or in films. Whether they actually do imitate depends on many factors, including inhibition, social pressures, and socially approved role models. The fact that children can mimic film-mediated aggressive behavior is perhaps the best-documented finding in the research literature on the effects of the pictorial media.

Many other experiments show children's imitation of other kinds of behavior. Some of these show copying of film-mediated behavior, while others show mimicking of a live person. These experiments buttress the findings of the many studies directly concerned with aggression. Psychologists generally consider quite convincing the evidence that children can readily learn many kinds of behavior, including aggressive actions, by attentively watching those behaviors being modeled by persons in their presence, on film, or on television. In this vein, after reviewing the literature, Weiss (1969) pointed out that "there is little doubt that, by displaying forms of aggression or modes of criminal and violent behavior, the media are 'teaching' and people are 'learning.'"

MEDIA INSTIGATION OF AGGRESSIVE BEHAVIOR

The distinction between imitation and instigation is crucial to a precise understanding of the influence television may exert on the behavior of the viewer. In the previous section we summarized prior

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research on the imitation of acts portrayed on television or in films.

The new research in this program was commissioned after the phenomenon of imitation of aggressive behavior portrayed on film had been well demonstrated. These new studies do not concentrate on adducing additional evidence for it, though other new studies will undoubtedly provide further documentation of this phenomenon. Rather, current research focuses on the conditions under which children will carry out the aggressive behavior we already know they can imitate. Given that children can imitate the aggressive behavior they observe, what are the inhibiting or disinhibiting factors that make it more or less likely they will do so? In this section we will review the findings of recent research which bear on the issue of television's role in stimulating or instigating antisocial aggressive behavior in children.

During the past decade, a large number of studies have examined television's role in facilitating or encouraging aggressive behavior. Many of these studies deal with aggression in children; another sizable group focuses on the aggressive behavior of older youth and adults. The results of approximately 30 previously published experiments (Appendix D) have been widely interpreted as supporting the thesis that children or adults who view violence in either films or television programs are more likely to behave in an aggressive or violent manner than those who do not view such fare (Baker and Ball, 1969). However, some reviewers have questioned this interpretation and suggest that additional research is needed before the question of the impact of televised violence can be answered (Singer, 1971; Weiss, 1969).

Five reports in this research program focus on television's role in the instigation of aggressive behavior: Stein and Friedrich (1971); Feshbach (1971); Liebert and Baron (1971); Ekman et al. (1971); and Leifer and Roberts (1971). (See Appendix B for brief descriptions of these reports.) The ten separate studies reported by these authors differ in terms of the subjects and specific research procedures. However, the general research paradigm is similar in each study. The typical procedure is to show one group of children films or television programs that contain a number of violent episodes, while another group views relatively nonviolent material. Subsequently, each child is placed in a setting where his behavior may be observed. The specific types of aggressive behavior differed from one study to another, and were not restricted to the mimicking or copying of what had just been observed. The child's aggressive behavior after watching the television program can be quite different in quality and character from the aggressive or violent behavior displayed in the television program.

Virtually none of the prior research dealt with effects of actual television programs. The earlier investigations typically employed a several-minute violent excerpt from a motion picture, severed from its original context. In contrast, much of the new research discussed in this chapter has made use of actual television programs so that what has been presented as television has not been unlike television programs seen in the home. These studies are perhaps more cogent than the prior research for determining the effects of content as it is presented on home television screens.

Most of the prior studies on the instigating effects of filmed violence had used college students as subjects and had assessed each viewer's aggressive behavior in terms of the number, duration, or intensity of electric shocks administered to an ostensible victim (e.g., Berkowitz and Rawlings, 1963; Berkowitz, Corwin, and Heironimus, 1963; and Geen, 1968). In the series of new studies, a wide range of other measures of aggression (including multiple measures within each study) were employed. These measures varied from the administration of painful noise or heat to an ostensible victim to self-report willingness to use physical or verbal force as a means of conflict resolution. In addition, one study obtained naturalistic observations of the physical and verbal interpersonal aggression occurring in the child's daily life.

The likelihood that a viewer--either child or adult--will behave more aggressively after watching aggressive behavior portrayed on film or television has been suggested by the results of a number of prior studies (Atkin, Murray, and Nayman, 1971). The majority of studies, covering various age levels, share the conclusion that viewing violence increases the likelihood that some viewers will behave aggressively immediately or shortly thereafter.

Some reviewers (Hartley, 1964; Klapper, 1968; Weiss, 1969; Singer, 1971) have disagreed with this interpretation. These writers have questioned whether the behavior observed can be regarded as "aggression" in a socially meaningful sense. They note that the subjects are directed to administer shocks and that the index of aggression is an extremely small increment in the number, duration, or intensity of the shocks

supposedly given. They note also that the subject gets no feedback from his supposed victim, who is unseen and unheard, and that the subjects are in some instances explicitly told that the shocks are mild. These reviewers contend that this behavior, which they see as explicitly authorized, very limited, and involving no violation of social norms, cannot be equated with real interpersonal aggression in the consensual sense of the term, nor regarded as necessarily predictive of such behavior.

Catharsis

Some reviewers and researchers have expressed different views regarding the general effects of televised violence. Feshbach and Singer (1971) have in fact suggested that viewing televised violence provides an opportunity for the discharge (catharsis) of aggressive feelings and thus reduces the likelihood that the viewer will engage in aggressive or violent behavior. The same prediction follows from an inhibition hypothesis, which holds that exposure to violent content leads to anxiety, guilt, or the greater salience of norms and taboos in regard to aggression, with consequent reduced aggressive behavior.

The theory underlying the catharsis hypothesis (Feshbach, 1961; Feshbach, 1969) stipulates that the child who views violence on television vicariously experiences the violence and thereby harmlessly discharges his pent-up anger, hostility, and frustration.

The Feshbach and Singer (1971) study provides the most comprehensive test of the "catharsis" hypothesis to be published to date. The investigators presented institutionalized adolescent and preadolescent

boys with a "diet" of either aggressive or nonaggressive television programming over a six-week period and concurrently measured the day-to-day aggressive behavior of these boys. The results indicated that, in some cases, the children who viewed the nonviolent television programs were more aggressive than the boys who viewed the aggressive programs.

These conclusions deviate from the bulk of research findings in this area. The accumulated experimental findings on the effects of media violence, including the relevant experimental investigations sponsored by this program, fail to support Feshbach's theory and conclusions. This type of disagreement can be resolved only when other investigators have repeated the experiment with appropriate methodological refinements designed to control possible sources of error.

Such a replication has recently been undertaken by Wells (1971), and the preliminary analysis indicates that the findings do not confirm those of Feshbach and Singer in reference to physical aggressiveness, although certain other findings are confirmed. Specifically, in both studies, the behavioral differences attributed to television were detected only in the lower socioeconomic level schools. Both studies also demonstrated greater <u>verbal</u> aggressiveness among boys who viewed the less violent programs. But--in a direct reversal of Feshbach and Singer--Wells found significantly greater <u>physical</u> aggressiveness among boys who viewed the more violent television programs. Moreover, the differences he found, in regard to both verbal and physical aggression, were limited to boys who were above average in aggression before the study began. Wells attributes the greater verbal aggression elicited by the less

violent program diet to dissatisfaction with the banning of action-adventure programs. He interprets the greater physical aggression elicited by the more violent program diet as a tendency for the action-adventure content to stimulate aggressive behavior. He found no evidence that would support a catharsis interpretation, unless the difference in regard to verbal aggressiveness were so interpreted.

As matters now stand, the weight of the experimental evidence from the present series of studies, as well as from prior research, suggests that viewing filmed violence has an observable effect on some children in the direction of increasing their aggressive behavior. Many of the findings, however, fail to show any statistically significant effects in either direction.

New Evidence from the Present Studies

In the present series of studies, the research that bears most directly on aggressive behavior in the daily life of the child is a controlled experiment by Stein and Friedrich (1971). These investigators observed the daily behavior of 3-1/2 to 5-1/2-year-olds (52 boys and 45 girls) who had been exposed to a diet of either aggressive, prosocial, or neutral programming. The general design of this study provided for a three-week baseline period during which observers recorded the child's usual patterns of social behavior. During the following four weeks, the children viewed 12 twenty-minute episodes in one of three "diets" of television or film programming. The aggressive programming consisted of 12 installments of Batman or Superman cartoons; the neutral programming consisted of children's films on "nature" or travelogues; the prosocial

program consisted of 20-minute segments of Misterogers Neighborhood, which stressed the themes of sharing, cooperative behavior, and adaptive coping with frustrations. Each child's daily interpersonal behavior was observed throughout the four-week period and continued to be monitored during a two-week followup. All observations were conducted in a nursery school (initially a new setting for the child) during normal interaction with other children.

The investigators used several measures of aggression, two of which--physical and verbal--were combined into an interpersonal aggression score. No significant differences were found among the overall effects of the three types of television treatment. Moreover, exposure to the diet of televised violence was found to have no consistent effect on children who had initially displayed a low level of aggressive behavior. Among children who were initially high in aggressive behavior, the difference in the changes that occurred is plausibly interpreted as indicating greater stimulation of aggressive behavior among those who viewed the violent diet than among those who viewed the neutral diet.[1]

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[1]This conclusion requires some explanation. When subjects are divided into those with high and low initial levels on any measure and when that measure (or a very similar one) is repeated, it is frequently found that the "initially high scorers" obtain slightly lower scores the second time and the initially low scorers obtain slightly higher scores the second time, as a result of a general tendency for imperfectly reliable scores to regress toward the mean. In the presence of the regression effect, it is difficult to assess the amount and direction of changes attributable to an experimental variable. The type of regression effect just described seems to run through the data in the Stein and Friedrich study: the children rated as low in initial level of aggressive behavior showed an increase in aggressive behavior while those rated as initially high showed a decrease in aggressive behavior

On each of the two component measures of aggression, the corresponding differences were in the same direction, but not large enough to be statistically significant.[2]

The most striking finding was an increase in prosocial behavior among the children who viewed the prosocial programs (e.g., Misterogers Neighborhood). This increase was limited to those young viewers who came from families of low socioeconomic status. These children tended to become more cooperative, helpful, and sharing in their daily relations with others; the children from families of high socioeconomic

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following exposure to television, regardless of which television program they saw. The main finding bearing on the effects of televised violence is that among those children who were initially high in aggressive behavior, those given the diet of televised violence showed little decrease, whereas the children who were given the neutral diet showed much more decrease (enough to be a significantly greater decrease) on one of the combined measures of aggressive behavior (interpersonal aggression). In view of the overall regression effect, this finding is tantamount to finding that exposure to the diet of televised violence gave rise to relatively more change in the direction of interpersonal aggressive behavior than exposure to the neutral diet.

There was no corresponding significant difference between those initially high in aggressive behavior who received the pro-social diet and those who received either the neutral or the violent diet.

For subjects who were initially low in aggressive behavior, there were no significant differences attributable to variations in television diet.

[2]In another field study, Cameron and Janky reported similar findings. In their study, parents were asked to restrict their child's television viewing to a diet of programs which were either aggressive or passive and then observe his daily behavior. Although serious methodological problems are inherent in this procedure, the results suggest that the child's behavior tended to change in the direction of the type of program content viewed: children who viewed "pacific" programs were adjudged by their parents to become less aggressive, while those who viewed the aggressive programs were adjudged to become more aggressive. Because of the strong possibility of biased judgments by the parents, we cannot give as much weight to this evidence as to the findings from controlled experiments which rely on trained observers who are "blind" about which type of program each child had seen.

status did not. Rather, the high-status children showed an increase in prosocial interpersonal behavior after viewing aggressive programming. An analysis of variance revealed a significant interaction between type of program viewed and socioeconomic status ($p < .05$). The main implications of the Stein and Friedrich research are that even relatively short repeated exposure (20 minutes) to the types of television programs available to children can exert positive or negative effects on the daily life behavior of nursery school children, but that the effects vary for different types of children.

In the Stein and Friedrich study, the age of the children was held constant. In other studies which compared younger with older children, age was an important predispositional factor associated with responsiveness to aggressive television fare. Liebert and Baron (1971) presented children with an opportunity to either help or hurt another child after they had viewed either an aggressive or a nonaggressive segment of television programming. The experiment was carried out with 68 boys and 68 girls at two age levels: five and six years old and eight and nine years old. Each child individually viewed a six-and-one-half minute "program." The "aggressive" program included three and one-half minutes of The Untouchables, preceded and followed by commercials; the "control" program included three and one-half minutes of a track race film with the same commercials. Then, so that aggressive behavior could be measured, each viewer was told that a child was playing a game in another room and that he could either help the other child or hurt him and prevent him from winning the game. The hurtful act consisted of pressing a button which

the subject was told would make the handle of a game that the "other" child was playing become very hot and hard to turn. The helpful act consisted of pressing another button which he was told would make the handle very easy to turn and allow the other child to win more prizes. The experimenter emphasized that the longer the child pushed on the "help" button the more the other child was helped, and that the longer the child pushed the "hurt" button the more he hurt the other child. This procedure provided several measures of interpersonal aggression in terms of duration, frequency, and latency of hurting responses. An additional measure of postviewing behavior was the amount of aggression observed in a free play situation--specifically, play with nonaggressive or aggressive toys.

The results indicate that, in both age groups, children who viewed the televised aggressive episode demonstrated a greater willingness to engage in interpersonal aggression against an ostensible child victim. The five- and six-year-old children who viewed the Untouchables episode aggressed sooner and for a longer time than those who viewed the track race episode. For the older children (eight and nine years old), those who viewed The Untouchables also showed significantly longer duration of aggressive responses than the equivalent controls, but they did not aggress any sooner. With regard to the child's spontaneous aggressive play behavior, it can again be noted that the children who viewed the televised violence episode subsequently showed more aggressive play than those children in the control condition. In this instance, younger boys were the most likely to behave aggressively.

Additional analyses of the behavior of these same children (Ekman et al., 1971) suggested that subsequent aggressive behavior is related to the child's reaction during viewing. Boys aged five and six whose facial expressions were judged to display such positive emotions as pleasure, happiness, interest, or involvement while viewing televised violence were more likely to engage in more intense interpersonal aggression and less likely to make helping responses than boys whose facial expressions indicated displeasure or disinterest in such fare. In addition, reactions judged to display happiness while viewing violence were positively related to aggressive play. However, this relationship between emotional reactions while viewing and subsequent aggressive behavior was not found for girls at ages five and six.

Additional evidence bearing on age differences comes from a study by Leifer and Roberts (1971). These investigators compared children of three different age groups, ranging from four to 16 years old, on their understanding of the ostensibly subtle motivations and consequences that surround violent acts depicted on television. They asked each child about his own aggressive tendencies on a questionnaire given immediately after the child viewed televised violence. Aggressive reactions were measured in terms of the child's answers to a series of questions about conflict situations (e.g., "You are walking down the street. Some kid is mad at you and comes up and hits you. What do you do?" Possible answers are: "Hit them"; "Call them 'stupid'"; "Leave them"; "Tell a grown-up"). One form of the questionnaire was developed for children four to ten years old, and another was developed for ten- to 16-year-olds.

In one experiment, 271 children (40 kindergarteners, 54 third, 56 sixth, 51 ninth, and 70 twelfth graders) were presented with a standard commercial television program that contained numerous episodes of violence. (A panel of adult judges had initially rated two programs, Rocket Robin Hood and Batman, as comprehensible by children four to five years old; two westerns, Have Gun Will Travel and Rifleman, as comprehensible by ten- to 12-year-olds; and two crime shows, Felony Squad and Adam 12, as appropriate for teenagers.) Each child was randomly assigned to view one of the appropriate programs. Immediately after the viewing, each child was questioned about his understanding of the motivations for and the immediate and final consequences of each of the violent episodes in the program. In addition, each child indicated the likelihood that he would behave aggressively by his choice of behavioral options in the hypothetical conflict situations described in the questionnaire.

The results showed that, as expected, there were consistent increases in understanding across the age range: kindergarteners could answer accurately only about one-third of the questions about either motivations or consequences; third graders could answer about one-half, and twelfth graders could answer about 95 percent. The majority of the kindergarten children did not understand very much about the settings of televised violence. Leifer and Roberts's findings suggest that for most young children, a violent act depicted on television is a singular event devoid of its context. For the young television viewers, violence evidently is often perceived in discrete punches.

The results suggest that both age and sex were important in predicting subsequent aggressive behavior: boys were consistently more aggressive than girls and aggressiveness tended to increase with age. However, among the variables studied, one of the best predictors of the subsequent aggressive score was the amount of violence portrayed in the television program: children who viewed the more violent programs gave more aggressive responses, on the average, than those who viewed less violence ($p < .05$).

Additional studies by the same investigators bear out the conclusion that adolescents comprehend the depicted motivations for and consequences of aggression better than younger children. However, there was little evidence in these studies that motivations or consequences had any influence on the effect of televised violence on aggressiveness. On the whole, the findings strongly suggest the importance of further investigation in this area, since it is often claimed that the context in which violence is portrayed modifies any effects such portrayals may have.

Feshbach (1971) provides evidence that an effective moderating influence may arise from the way televised violence is labeled. His findings support the hypothesis that being told about the reality or fantasy character of acts depicted on television will influence the subsequent behavior of viewers. Forty boys and girls, between nine and 11 years of age, viewed a six-minute film of a campus riot; the film was composed of both newsreel clips and segments of a Hollywood movie. On a random basis, half the children were told that the film was an NBC newsreel; the other children were informed that this was a film made in a Hollywood studio.

After viewing this film, each child was required to play a guessing game with an adult, responding to the adult's errors by pressing buttons which allegedly caused noises of various degrees of loudness in the earphones that the adult was wearing.

The results indicate that, among the children who saw the riot film, those who were told that the violence was real subsequently produced louder noises in the laboratory game than those who were told that the violence was make-believe ($p < .01$). On the other hand, the response level of children who viewed the fantasy aggressive program was actually lower than that of children who did not view an aggressive program ($p < .05$). The latter finding provides one of the rare bits of support for the catharsis or inhibition hypothesis.

If positive findings are confirmed in subsequent studies, one would expect that when a program is clearly labeled as fiction, young viewers will react to it in a different way than if they are led to believe that the program is showing real events. However, it should be noted that Feshbach's results pertain to the behavior of children at an age when the labeling of a program (as fiction or as reality) can be clearly understood. It is not clear that the young child consistently perceives television entertainment programs to be fantasy. A considerable research literature on the thought processes of children (e.g., Piaget, 1954 and 1962) suggests that a distinction between what is "real" and what is "make-believe" in standard dramatic television programs is probably nearly impossible for the young child below the age of six years. For older children, however, labels might reduce the tendency to display

overt aggressive behavior among those who are disposed to be adversely stimulated by televised violence.

A full assessment of the impact of televised violence on children must, of course, include other forms of emotional reactions besides aggression. We have mentioned parents' complaints that many television programs stimulate anxiety reactions and produce sleep disturbances and nightmares in young children (e.g., Hess and Goldman, 1968; Lyle and Hoffman, 1971a and 1971b; Roberts and Baird, 1971). Very little systematic research has checked on these allegations; consequently, we simply do not know whether any types of television programs are likely to create sustained anxiety reactions in a sizable proportion of children.

Some pertinent findings bearing on children's dreams have been reported by Foulkes and his collaborators. Foulkes and Rechtschaffen (1964) have reported some evidence that viewing televised violence produced more vivid and emotional dreams in children. However, a more recent systematic followup study by Foulkes, Belvedere, and Brubaker (1971) assessed the impact of televised violence in a western program on the child's dream content (including manifestations of hostility, guilt, and anxiety) and found little or no measurable effect. This study was limited, however, to preadolescent boys (aged ten to 12). Whether younger children exposed to televised violence show any noticeable change in the degree to which their dreams are characterized by hostility, guilt, or anxiety remains an open question. In the absence of dependable evidence, we can draw no conclusions about the likelihood of sleep disturbances or other manifestations of anxiety in younger children.

General Arousal as a Source of Instigation

All of the research discussed so far has been concerned with the effects of the portrayal of violence or aggression in communication content on subsequent behavior or attitudes. A radically different approach is presented in the progress report of Tannenbaum (1971).

In a program of research that began before this committee was formed and that will continue into the future, Tannenbaum has been investigating the hypothesis that the emotional arousal elicited by a communication affects the level or intensity of whatever subsequent behavior may occur. Arousal, then, is conceived of as independent of content as a predictor of effects.

Preliminary findings, based on college students, support the corollary proposition that content other than violent or aggressive material may instigate aggressiveness. With aggressive behavior measured by willingness either to administer electric shocks or to give negative ratings that might hurt another's career, the effects of videotapes or films judged to be erotic, humorous, aggressive, or neutral in content were assessed in several experiments. The viewing of erotic and of humorous materials was followed by greater aggressiveness than the viewing of neutral material, and the viewing of erotic material was followed by greater aggressiveness than the viewing of aggressive material. The nature of the subsequent behavior, then, is conceived of as independent of content, as is the arousal.

However, Tannenbaum also has provided support for the proposition that violent or aggressive content can instigate aggressiveness. In

these same experiments, the viewing of aggressive material was followed by greater aggressiveness than the viewing of neutral or humorous material.

Tannenbaum's preliminary findings also support a second corollary proposition--that aggressive content may instigate behavior which is nonaggressive, and in fact prosocial. In experiments designed to test this hypothesis, "humor reactions" of equal magnitude were found to follow a humorous film and an aggressive film. In addition, "rewarding behavior" (presentation to another person of tokens presumably redeemable for cash) was found to occur after both aggressive and nonaggressive stimulus films. Whether "aggressive" or "rewarding" behavior occurred appeared to be less a product of the film than of attitudes earlier engendered in the subjects regarding the recipient of the behavior.

It remains a matter of speculation whether general arousal should be taken as a complete explanation of any effects, with violent content having an effect on aggressiveness only through a special power to arouse, or whether specific content and consequent cognitive processes have an independent influence. The crucial test would involve comparison of the effects of aggressive content with and without the capacity to elicit emotional arousal. Unfortunately, such a test has not so far been made because aggressive content devoid of arousing capabilities is difficult--and, in fact, may be impossible--to devise.

The preliminary nature of this research suggests extreme caution in advancing any conclusions. If generalized arousal is verified either as the single or as a contributing factor, the interpretation of many findings as reflecting exclusively the instigating effects of

aggressive content would have to be modified. However, what can now be said specifically about the capacity of violent or aggressive content to instigate aggressiveness would not be greatly affected. Instead, such effects of such content to a greater or lesser degree would become a special case of a more general phenomenon capable of more varied effects.

Other New Research

A forthcoming study outside this research program is pertinent to the discussion in this chapter. Milgram and Shotland (in press) arranged for the airing in different cities of three different versions of a highly rated prime time program. In one of the three versions (antisocial with consequences), a young man in need of money violently destroys a series of charity collection banks and pockets the money. He is ultimately arrested, suffers certain personal consequences, and experiences remorse. In a second version (antisocial without consequences), the young man succeeds in a harrowing escape and flees to Mexico, but is otherwise unpunished. In a third version (prosocial), the man's conscience overcomes him at the last moment; he does not break the banks, and various troubles he was suffering are cleared up without recourse to antisocial acts. A fourth "control" program from the same series dealt with an entirely different subject totally devoid of violence.

Samples of viewers of each of the four programs were thereafter invited to receive a free gift. Upon arrival at the gift distribution center they found themselves alone in a room confronted by a sign saying that the gifts were no longer available. Also present was a charity bank in important respects similar to the one that had been destroyed in

the television program, along with implements that could be used to break it (a hammer and screwdriver, apparently left by a worker).

Generally, no main effect was observed, i.e., the rate of theft was not related to the program which the subjects had viewed. Where the breakage rate did vary significantly, it was related to differences in subject population and in response to such variables as the level of presumably frustrating conditions. These latter variables produced theft rates varying from 0 to 15 percent.

Null relationships were observed in relation to a second and more easily imitable act depicted in two versions of the program--an abusive telephone call. The investigators interpret the results to indicate that naturalistic viewing of the antisocial stimulus programs did not stimulate imitation of either of two antisocial acts, but they note three factors limiting the generalizability of their findings. First, the findings pertain only to the specific acts depicted in this program, and cannot be casually generalized to all television programs which depict aggression or antisocial behavior. Second, the study employed an adult population with no participants below the level of high school senior, and thus the findings may not be applicable to the effects of television on children. Third, in common with many other studies, the experiment does not examine the long-term, cumulative impact of television.

CONCLUSIONS

The available experimental evidence bearing on the effects of aggressive television entertainment content on children supports certain

conclusions. First, violence depicted on television can immediately or shortly thereafter induce mimicking or copying by children. Second, under certain circumstances television violence can instigate an increase in aggressive acts. The accumulated evidence, however, does not warrant the conclusion that televised violence has a uniformly adverse effect nor the conclusion that it has an adverse effect on the majority of children. It cannot even be said that the majority of the children in the various studies we have reviewed showed an increase in aggressive behavior in response to the violent fare to which they were exposed. The evidence does indicate that televised violence may lead to increased aggressive behavior in certain subgroups of children, who might constitute a small portion or a substantial proportion of the total population of young television viewers. We cannot estimate the size of the fraction, however, since the available evidence does not come from cross-section samples of the entire American population of children.

The research studies we have reviewed in this chapter tell us something about the characteristics of those children who are most likely to display an increase in aggressive behavior after exposure to televised violence. There is evidence that among young children (ages four to six) those most responsive to television violence are those who are highly aggressive to start with--who are prone to engage in spontaneous aggressive actions against their playmates and, in the case of boys, who display pleasure in viewing violence being inflicted upon others.

The very young have difficulty comprehending the contextual setting in which violent acts are depicted and do not grasp the meaning of cues or labels concerning the make-believe character of violence episodes in

fictional programs. For older children, one study has found that labeling of violence on a television program as make-believe rather than as real reduces the incidence of induced aggressive behavior. Contextual cues to the motivation of the aggressor and to the consequences of acts of violence might also modify the impact of televised violence, but evidence on this topic is inconclusive.

Since a considerable number of experimental studies on the effects of televised violence have now been carried out, it seems improbable that the next generation of studies will bring many great surprises, particularly with regard to broad generalizations not supported by the evidence currently at hand. It does not seem worthwhile to continue to carry out studies designed primarily to test the broad generalization that most or all children react to televised violence in a uniform way. The lack of uniformity in the extensive data now at hand is much too impressive to warrant the expectation that better measures of aggression or other methodological refinements will suddenly allow us to see a uniform effect.

Several specific directions for subsequent inquiry are repeatedly suggested by the most recent studies. First, identify the predispositional characteristics of those subgroups of children who display an increase in aggressive behavior in response to televised violence. Second, ascertain at what ages different reactions occur. Third, check on the moderating influence of labeling, contextual cues, and other factors under the control of television producers which may reduce the likelihood that predisposed children will react adversely to televised violence. Fourth,

further investigate the possibility that content other than violent content may increase the likelihood of subsequent aggressiveness, that violent content may instigate other behavior besides aggressiveness, and the applicability of such findings to preschool children, elementary school children, and adolescents. Finally, we must call attention once again to the gap in longitudinal research on the effects of television programs on children. This gap needs to be filled before we can learn something dependable about the long-term effects of repeated exposure to standard television fare on the personality development of the child.

CHAPTER 7

TELEVISION AND ADOLESCENT AGGRESSIVENESS

The origins of human behavior are generally traceable to early childhood influences. It is during adolescence, however, that drives and desires are first expressed in a manner and context that approximate adulthood. In the earlier years, personality and character are shaped. In adolescence, the results begin to be displayed in a relatively grown-up manner, and tendencies become modulated or confirmed.

Adolescence would seem to be both a potentially informative and a socially important laboratory for studying aggressiveness. When aggressive behavior occurs in adolescence, it is quite likely to have real social consequences in both the short and the long run. Unfortunately, a number of factors make such study difficult.

In some respects adolescents are easier to study then other age groups. They are somewhat easier to reach than adults because they can be found in groups in schools rather than one by one in homes. Unlike young children, they can understand and answer questions. When it comes

to studying aggressive behavior, however, there are at least three very serious difficulties:

(1) Aggressiveness in real life cannot easily be studied directly. The reasons are partly ethical and partly practical. Real aggression against real people could hardly be encouraged on behalf of measurement and analysis, however highly an increase in the understanding of human behavior may be valued; science is not exempt from the cultural taboo against inflicting discomfort, pain, or injury. Aggressiveness that occurs naturally is not a convenient substitute. On the one hand, its observation within a large and varied population would be prohibitively expensive and time-consuming; on the other, it would often be impossible for an observer, despite an allegiance to science, to remain a bystander, and intervention would destroy the validity of measurement.

(2) The array of possible influences and concomitants is vast. A few examples will suggest how long and varied is the list: family, friends, physical prowess, intellectual ability, socioeconomic status, intelligence, academic achievement, ethnicity, occupational aspirations and expectations, individual values and attitudes toward aggressiveness, and the various media. Television, the specific focus of our inquiry, is only one. The situation is made more complicated by the fact that the factors on such a list will have varying kinds of relationships, both with one another and with one or both of the variables with which we are primarily concerned--television violence and aggression. Thus "academic achievement" might plausibly be found, on inquiry, to be related to viewing habits and attitudes toward aggression, and so might "socioeconomic status." But "academic achievement" and "socioeconomic status" might

equally as plausibly be related to each other, and related in such ways that differing combinations of the two might be differently related to viewing television violence and to aggression. The potential complexities become progressively greater in reference to such generic and complex factors as "family," "friends," and "individual values and attitudes toward aggressiveness."

(3) The role of earlier influences, which may be crucial, is difficult to assess. Such earlier influences not only lengthen the list of pertinent factors, but increase the problems of taking them into account. Records may not exist or may be inaccessible; memory is faulty; what once may have been influential may no longer be observable or may no longer have the same effects.

The research on which we will draw has attempted to deal with many of these problems. It has attempted to deal with aggression in real life and to examine the influence of some of the pertinent factors, both current and past, which have been cited. But the research has addressed these problems on a very limited basis and to only a limited extent. Given the complexity of the research task and the brief duration of the present program, such limitations are not only understandable but inevitable. For these reasons, the conclusions which can be drawn from the research are necessarily tentative, and less definitive than might be hoped. Here again, as in many similar situations, continued research is clearly desirable, and its directions and focuses are to a considerable extent suggested by what has been accomplished to date.

THE RESEARCH SOURCES

The research findings discussed in this chapter are drawn in the main from a set of reports bearing on studies involving, among them, more than 7,500 young people. The vast majority of these young people, about 6,900, were adolescents, ranging in age from 12 to 19 or ranging in school placement from the first year of junior high school to the year following graduation from senior high school. The remainder were nine to 11 years old and in the fourth, fifth, and sixth grades. The number of children involved in individual studies ranged from 80 to 2,260.

The several studies dealt with in this chapter all report answers by adolescents to questions put to them in <u>surveys</u>. In that respect this chapter differs from the preceding one. That chapter, which dealt largely with the behavior of preadolescent children, was based almost entirely on <u>experimental</u> results. Not surprisingly, young children who do not answer questions fluently, but who perform tasks that adults assign them, have been studied in the laboratory, while adolescents in school have been preferred subjects for researchers with questionnaires. This incidental consideration of convenience has unfortunately meant that in some respects it is difficult to compare findings about adolescents with findings about younger children. That, however, is the present state of affairs.

The several surveys that we are about to review differ considerably in the nature and size of the samples, the methods employed, and the specific objectives pursued. Complete descriptions of these aspects of each study are perhaps rendered unnecessary by the publication, concurrent

with this report, of the papers themselves. Summary descriptions of the various studies are in Appendix B to this report. Such additional details as are necessary to the discussion of findings will be presented at appropriate points throughout the text. The reports here reviewed are: Chaffee and McLeod (1971a, 1971b); Dominick and Greenberg (1971); Friedman and Johnson (1971); Lefkowitz et al. (1971); McIntyre and Teevan (1971); McLeod et al. (1971a, 1971b); and Robinson and Bachman (1971).

THE MEASURES OF TELEVISION BEHAVIOR AND OF AGGRESSION

One or more measures of television behavior and one or more measures of aggression were used in every study. The measures varied considerably.

Measures of Television Behavior

Behavior in regard to television was variously measured by time spent viewing, by preference for violent programs, and by amount of viewing of violent programs. The measures in each of these three categories were almost all self-reports, but the particular questions asked differed from study to study.

> Time* spent viewing was ascertained by self-reported estimates of hours viewed on an "average day" (Robinson and Bachman, 1971; McIntyre and Teevan, 1971); from variously combining self-reports, or self-reports and mother's reports, of hours viewed on an average day, on the preceding day, and on the day before that (McLeod et al., 1971a and 1971b; and Friedman and Johnson, 1971); and by combining self-reports of hours viewed yesterday and hours viewed the previous evening (Chaffee and McLeod, 1971). Lefkowitz et al. (1971) summed self-reports by their Grade 8 and Grade 13 respondents of hours viewed "Saturday and Sunday" and "the rest of the week," and they obtained information from mothers in regard to their Grade 3 respondents.

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* Throughout this chapter, some material appears in this indented and reduced-size format. Such material documents and explains statements in normal type.

Preference for violent programs was, except in one instance, ascertained by asking respondents to name either three or four favorite programs and by assigning a violence score to these programs on the basis of ratings by various types of judges. The judgments of a "sample of newspaper and magazine critics" as to whether the program contained "violent content" (reported by Greenberg and Gordon, 1971b) were used for this purpose by McIntyre and Teevan, by Robinson and Bachman, by Friedman and Johnson, and by Chaffee and McLeod (1971b), who also employed ratings by a sample of Minneapolis high school students. Lefkowitz et al. classified the favorite programs of their Grade 8 respondents on the basis of ratings made four years later by industry censors, and they classified the favorites of their Grade 13 respondents on the basis of ratings by two undergraduate students, which ratings correlated at .94 with those of the Greenberg and Gordon scale.

Considerable variety existed in reference to the possible range of numerical scores in scales employed by the several investigators, and in reference to classification of programs not included in the Greenberg and Gordon listing. Football, for example, was omitted by Greenberg and Gordon, classified as highly violent by Robinson and Bachman, and classified as nonviolent by Lefkowitz et al. Another source of variation apparently exists but cannot be fully described: Robinson and Bachman report that 44 percent of their all-male sample could not name three favorite programs, and they present this group separately in their tables and analyses; the other investigators do not always report the proportion who could not name three (or four) favorites and do not differentiate such respondents from the others in their tables and analyses.

The Lefkowitz Grade 3 program preference measure differed from all others in that it was not obtained from the children (aged eight) but from their mothers and fathers, who were asked to name the three favorite television and radio programs of their children. Programs cited by mothers were classified as violent or nonviolent by two coders on the project staff who worked independently and agreed in 94 percent of the cases. The fathers' reports were apparently not used, but the reason for this is not stated.

The amount of viewing of television violence was variously ascertained by self-reports of "kinds of TV programs" (i.e., program types) viewed at least "pretty often," with "westerns" and "spy-adventure shows" considered to be violent (Chaffee and McLeod, 1971a); by self-reported viewing of 20 specific programs classified as violent in the Greenberg and Gordon list, which were embedded in a list of 28 programs (Dominick and Greenberg); by the number of programs Greenberg and Gordon classified as violent which were among those which respondents selected from a list of evening programs and said they had watched five times in the preceding five weeks (Friedman and

Johnson); and by a more complex procedure embracing self-reported frequency of viewing each of 65 listed prime time programs, each of which was assigned a violence score based on the Greenberg and Gordon classification, combined with ratings by a sample of Minneapolis high school students (McLeod et al., 1971a and 1971b).

The three types of measures of television behavior (time spent viewing, preference for violent programs, and amount of violence viewing) would seem to have some prima facie relationship one to another. Adolescents who view television more heavily would seem likely, overall, to view more violent programs than those who view television less often. Similarly, those who are high in preference for violent programs would seem likely to view more of them than those whose preference for such material is low.

Such limited data as are available, however, suggest that the three measures are not in fact closely related. In the one study in which pertinent and precise data were supplied on the same sample (Chaffee and McLeod, 1971b), preference for violent programs and violence viewing were found to be correlated to only a modest degree (r=.25), as were also violence viewing and total viewing (r=.29). Further, as will be shown below, when inquiry is made into the relationship (if any) between each of these three measures and aggressive tendencies, the results for each of the three measures differ quite markedly from the results for each of the others.

These findings suggest that the three measures do not in fact bear to any great degree upon the same behavior and are not equivalent measures for characterizing exposure to television violence. Although definitive tests are not available in the data, it would seem under the circumstances reasonable to suppose that, of the three measures, "amount

of violence viewing" is the best measure of actual exposure to television violence. Future researchers would be able to clarify these questions and suppositions by using all three measures on the same samples and exploring the interrelationships among them.

Measures of Aggression

The measures of aggression used in the several studies (and indeed in several of the individual studies) are numerous and extremely varied. Both the number and the variety are to be expected, since there is no simple or uniform definition of "aggression," and the various researchers understandably sought to tap several of its different aspects. In accord with scientific tradition, each study defined the word, explicitly or implicitly, in terms of the specific measures used in the particular study. But responsible interpretation of the pool of findings from the group of studies requires attention to the considerable variety of phenomena to which the same label has been applied.

In each of the studies, some form of aggression score (or scores) was determined for each respondent on the basis of self-reports and/or others' reports of whether or to what degree the subject engaged in specified behaviors or asserted specific attitudes or beliefs. A full description of the numerous measures and indices will be found in the texts and appendices of the papers themselves. It will perhaps suffice here to indicate, with appropriate examples, some of the various dimensions along which the measures differ, and the kind of range involved in each of these dimensions. Two notes of caution and explanation about the list which follows are in order. First, the cited examples have been selected to illustrate the variety and do not purport to indicate the relative weight

given to different measures in the pool of studies or in any single study. Second, since the cited dimensions are conceptually independent of one another, any item can be characterized in terms of its position on each of the dimensions; for this reason, any of the examples could appear under more than one dimension.

1. Dimension: Degree of reprehensibility. The behaviors and beliefs spread along a range including:
   a) some which are consensually regarded as socially reprehensible, or even heinous ("Set fire to someone else's property on purpose");
   b) some which by comparison seem trivial ("...gives dirty looks or makes unfriendly gestures to other children");
   c) some which manifest widely held values and seem likely to be applauded by a considerable portion of society (Approves of "a man punching an adult male stranger who was beating up a woman").
2. Dimension: Actuality of behavior. The items spread along a range including:
   a) behavior which has actually been performed ("Hurt someone on purpose to get back for something they have done to you");
   b) projected behavior in hypothetical situations ("What would you do...if somebody picks a fight with you on the way back from school? Fight? Back out of it? Try to discuss the problem?");

c) subscription to statements expressing aggressive attitudes (Disagrees with statement "I can't think of any good reason for hitting anyone");

d) subscription to statements which do not in themselves express any aggression at all, but are presumably correlates of aggression (Does not agree that "dealings with policemen and government officials are usually pleasant").

3. Dimension: Source of report. The measures include:

a) self-reports (Disagrees with statement "I would rather give in than argue about something");

b) peer reports ("Who makes up stories and lies to get other students in trouble?");

c) reports by others who are not peers ("When [your child] was younger, how often did he show aggressive behavior toward other children?").

4. Dimension: Temporal reference. The items variously refer to:

a) behavior at an earlier age ("When I was younger I often hung around with the wrong kinds of kids");

b) behavior in the recent past (Has within the last year "damaged school property on purpose");

c) current or characteristic behavior ("If somebody hits me first, I let him have it").

Such a variety of measures of aggression can hardly be expected to interrelate at any consistently high level. The fact that almost all such correlation coefficients reported are positive suggests the existence of

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some general factor running through the indices; the fact that many of the correlation coefficients are not high suggests that differences among the findings of the several studies may well in part be a product of their using different measures. It therefore becomes the more pertinent to inquire into what measures were involved in relationships found to be weak and, more important, what measures were involved in the observably stronger relationships.

FINDINGS

We turn now to a consideration of the findings reported in the papers with which we are here primarily concerned. The basic question, and first to be considered, is what the papers report concerning the relationship between exposure to television violence and aggressive tendencies. The appropriate findings are here organized in terms of the several broad measures of exposure: time spent viewing, preference for violent programs, and amount of violence viewing.

Relationship Between Time Spent Viewing and Aggression

> Two surveys performed more than a decade ago found no relationship between television viewing as a whole and tendencies to aggression. In one of these (Himmelweit, Oppenheim, and Vince, 1958), performed when television was not yet in all British homes, no differences in aggression were noted between children who viewed television and matched controls who did not. Essentially if not precisely similar conclusions were reported by Schramm, Lyle, and Parker (1961) in a study of American and Canadian children.
>
> Two of the current studies inquired into the relationship between time spent viewing and aggression. Lefkowitz et al. report, without citing supporting data, that among their Grade 13 respondents, total viewing time was not related to peer

reports of aggression. McLeod et al. (1971a), on the other hand, found modest but significant correlations, ranging from .17 to .23, between total viewing time and both self- and others' reports of aggression in both their Maryland and Wisconsin samples.

The data on this topic are limited and permit no very meaningful conclusion. As far as they go, they may be said to suggest that time spent viewing is at most tenuously related to aggressive tendencies.

Relationship Between Preference for Violent Programs and Aggression

The relationship between preference for violent programs and aggression was a topic of inquiry in several studies. McIntyre and Teevan found trivial correlations, ranging from .02 to .06 (of which only the highest was statistically significant), between the violence level of their respondents' favorite programs and five different types of "deviance." Subsequent measurements involving the average violence level of the respondents' four favorite programs produced statistically significant but still small correlations, ranging from .07 to .16 and in relation to all five measures of deviance. The two highest of these coefficients, .11 and .16, occurred in relation to self-reported "aggressive deviance" and "serious deviance," which respectively focused on antisocial physical aggression (fighting with peers) and on getting into trouble with the police. (The three other scales bore on "petty delinquency," "fighting with parents," and "political deviance.")

Chaffee and McLeod (1971b) observed a trivial correlation (r=.08) between violence level of favorite programs and aggressive tendencies with a sample of 473 junior and senior high school students in Maryland.

Robinson and Bachman, working with data bearing on over 1,500 19-year-old boys, report a monotonic but weak relationship between preference for violent programs (three or four favorites) and self-reports of aggressive interpersonal behavior. The relationship reaches statistical significance, however, only when those boys whose favorite programs include "some," "much," and a "great deal" of violence are combined and compared with those boys whose favorite programs include "almost none." A slight relationship was also observed between violence level of three or four favorite programs and self-reports of specific delinquent acts. Boys who most favored such programs were more likely than boys who did not to get in trouble with the police or to engage in car theft. They were not more likely to engage

in arson, minor theft, or various sorts of petty delinquency.

Friedman found that a group of 39 junior high school students judged to be high in aggressiveness indicated a somewhat greater preference for violent programs than did 41 of their peers who had been judged to be low in aggression.

Lefkowitz et al. inquired into the relationship between preference for violent programs and aggression at three different points across a ten-year age span in the lives of their respondents. The favorite program measure at Grade 3 was obtained from mothers rather than from the children and correlated, for boys, at a level of .21 with peer reports of aggressive tendency. No relationship was observed for girls. The relationships for the boys at Grades 8 and 13 were essentially null (or trivially negative, viz., -.10 and -.05), as were those for girls. A positive correlation of .31 was, however, observed between boys' preference for violent programs at Grade 3 (as reported by mothers) and peer-rated aggression at Grade 13.

Several studies investigated the relationship between adolescent preference for violent programs and aggressive tendencies. The relationships observed were essentially null, or positive but weak. An exception was the correlation coefficient of .31 observed by Lefkowitz et al. between mothers' reports of boys' favorite programs at Grade 3 and peer-rated aggression ten years later. Aside from that result, which will be further discussed below, the findings suggest a weak and perhaps tenuous relationship between some kinds of aggressiveness and preference for violent programs.

One finding from McIntyre and Teevan--that a measure based on four favorite programs consistently produced slightly higher relationships than a measure based on one favorite program--suggests that the amount of exposure to violent programs might prove a more predictive variable. The findings of the studies to be discussed immediately below are in fact based on such a measure.

Relationship Between Viewing of Violence and Aggression

The relationship between viewing of violence and aggressive tendencies was investigated in two of the current studies.

Dominick and Greenberg found that boys who were more highly exposed to violence were more likely than those not highly exposed to hold some attitudes favorable to aggression, and no more likely to hold other presumably related attitudes. Specifically, the mean scores of the highly exposed boys were slightly but significantly higher than those of the lower exposed boys on scales entitled "Willingness to Use Violence" and "Perceived Effectiveness of Violence"; no significant differences in means occurred on scales entitled "Approval of Aggression" and "Use of Violence in Conflict Situations." This is to say that the highly exposed boys were somewhat more likely to agree with such statements as, "Anybody who says bad things about me is looking for a fight" (willingness to use violence) or "Sometimes a fight is the easiest way to get what you want" (perceived effectiveness of violence). They were not more likely than others to agree with such statements as "I see nothing wrong in a fight between two teenage boys" (approval of violence) nor to suggest the use of violence in reply to open-end questions such as, "Pretend somebody you knew took something from you and broke it on purpose. What would you do?" (use of violence in conflict situations). No overall score of expressed attitude was calculated, but the mix of positive and random results would produce some positive relationship between violence viewing and such an overall score. Among girls studied by Dominick and Greenberg, the mean scores of those who were more highly exposed to television violence were slightly but significantly higher than the mean scores of the less exposed on all

of the scales except "Approval of Aggression."

McLeod et al. (1971a) inquired into the relationship between viewing of violence and various scales of aggressive behavior, including "overall" scores which combined several selected scales. They report statistically significant correlations of .30 and .32 between violence viewing and overall self-report aggression scores for mixed sex samples of Maryland and Wisconsin high school students. When these samples are broken down by sex and grade level (junior vs. senior high), the relationships remain positive, although half lose significance as the sample sizes drop. The relationship was again found to be at least as strong, if not perhaps stronger, for girls than for boys, and is at its lowest among junior high school boys.

In their study of the Wisconsin sample, McLeod et al. (1971b) employed additional measures of both aggression and violence viewing. Aggression ratings were obtained from peers and nonpeer others, and a statistically significant but modest correlation coefficient of .17 was observed in reference to an overall sum of "other" reports of aggression. The investigators also inquired into their Wisconsin respondents' viewing of television programs that had been on the air "three or four years ago." This measure of "past violence viewing" correlated as well as did current violence viewing with both current overall self-report aggression scores and current overall other-report aggression scores.

In sum, the two studies which inquired into the relationship between violence viewing and aggression reported several weak relationships, plus one relationship which stood at or about the .30 level in reference to two samples and regardless of whether past or current violence viewing

was employed as the exposure measure.

Summary

All but one of the studies with which we are here primarily concerned inquired into the relationship between exposure to television violence and aggressive tendencies. Some studies employed total viewing time as an index of exposure; some employed preference for violent programs; and some employed amount of violence viewing. Most of the relationships observed were positive, but most were also of low magnitude, attaining levels ranging from null relationships to .21. A few of the observed relationships, however, reached levels at or just above .30. These were the relationships between violence viewing and overall self-report aggression scores reported by McLeod et al. (.30 and .32), and the correlation of .31 reported by Lefkowitz et al. between mothers' statements of boys' favorite programs at Grade 3 and peer-rated aggression of the boys ten years later.

On the basis of these findings, and taking into account their variety and their inconsistencies, we can tentatively conclude that there is a modest relationship between exposure to television violence and aggressive behavior or tendencies, as the latter are defined in the studies at hand. We turn, therefore, to consideration of what this relationship signifies. What is meant by correlation at the .30 level? And finally, since correlation is not in itself a demonstration of causal relationship, what can be deduced from these data regarding causation?

THE INTERPRETATION OF CORRELATION COEFFICIENTS

Since a large part of the data presented in the studies reviewed

here consists of correlation coefficients, it seems appropriate to discuss the nature, the meaning, and the limitations of these measures. Such a discussion, which must of necessity be relatively technical, appears in Appendix E. A summary of that discussion follows.

The correlation coefficient is basically an indicator of the strength of the tendency of two variables to vary concomitantly. However, it is a summary statistic and as such may be the outcome of a number of different patterns of relationships among the two variables concerned. For example, a correlation coefficient in the middle range, like the .30 relationships that appear in two of the studies, might occur if quite a small number of individuals were high in both violence viewing and aggression and another small number were low in both violence viewing and aggression, even though there was no relationship between the two variables for the great majority of individuals.

Whatever may be the data configurations that led to the reported correlation coefficients between exposure to television violence and aggressive tendencies, there are other problems in the interpretation of their significance. First, there is the possibility that with so many correlation coefficients reported, a few might have turned out to be significant by chance alone. However, the fact that most of the other values observed, though often trivially small, were generally in the positive direction lends some support to the few significant correlations that were found. Only replication, however, will indicate whether the higher coefficients are a result of special characteristics of the measures in the studies involved or are simply chance findings. Second, the observed relationships may be either overestimates or underestimates of the "true" relationship; these possibilities derive from technical

considerations bearing on what may be called "the inherent statistical unreliability" of the measures involved.

"Variance accountability." A correlation coefficient is often said to "account for" a certain percentage of the "variance." The percentage is the square of the correlation coefficient. Thus, correlation coefficients of .30 account for about ten percent of the variance. This technical statement defies brief explanation. Two considerations, however, must be kept in mind. First, the statement indicates that the relationship between violence viewing and aggression, as so far observed, is relatively modest. Second, the statement does not mean that violence viewing causes ten percent of the aggression, nor even that the relationship bears on ten percent of the aggression.

Correlation and Causation

It is an axiom of science that correlation does not demonstrate causation. Covariation of two variables may occur for a great variety of causal and noncausal reasons, or for no discernible reason at all. Correlation is a necessary but not sufficient condition for causal inference. In this sense correlation techniques have great strength as a screening device: if the relationship between variables is demonstrably trivial, then there is little justification for further pursuit of causal explanations.

CAUSE-EFFECT INFERENCES

The data provided by the studies under review in this chapter are exclusively correlational, and correlational data are inadequate in

themselves for causal inference. Even correlations between two variables, one of which occurs before the other, are not necessarily conclusive evidence of causation.

Philosophically, the concept of causation implies that change in the value of a precedent variable will systematically result in change in the value of a consequent variable. Although such causation can never be demonstrated beyond the shadow of a doubt, scientists tend to recognize three requirements as necessary conditions for causal inference:

a. Association (the variables must be shown to covary);

b. Time order (change in the specified cause must occur prior to change in the specified effect);

c. Reasonable explanation or functional relationship in a non-mathematical sense.

Correlation coefficients can satisfy the first of these requirements. Correlation coefficients between changes from earlier to later measurements also meet the second test. In regard to the third requirement, the judgment of the reasonableness of a theoretical explanation of an observed relationship can never be definitive. Where experimental controls cannot be applied, conformity with existing theory and a recourse to "common sense" are frequently the best tests available for judgment of the reasonableness of an assertion of causation.

If correlation analysis fails to support association, however, or if it provides negative evidence on the issue of time order, the proposition may be abandoned. Otherwise, the possibility of causality remains viable, and its nature remains a question to be explored.

Correlational Designs and Experimental Designs

The plausibility of causal hypotheses can best be investigated by experiments because the controlled conditions make unambiguous conclusions possible about association and time order, and the dynamics of the hypothesized relationship are made explicit in advance.

Some comment on the distinction between controlled experiments and correlational studies is necessary. As modes of scientific investigation, the two differ in an important way.

In experimental studies, like those described in the preceding chapter, the effect of a single stimulus can be isolated. Subjects can be randomly assigned to a control condition where the stimulus is absent and to one or more experimental conditions in which a stimulus of interest is present. Thus, the impact of other stimuli, preconditions, and associated variables is equated among conditions, and a manipulated stimulus can be isolated as to effects in which other things may be taken as equal.

In a correlational study, exposure to the stimulus of interest is the result of a self-selection process. Other things cannot be assumed equal, and the attribution of effects is difficult and sometimes impossible. In short, the stimulus of interest is confounded with a large number of other stimuli, with preexisting conditions, and with associated variables. As a result, there is a risk that the stimulus of interest may be credited with the entire impact that should partly or wholly be credited to other components of the constellation of which it is a part.

Despite the advantages of laboratory experiments in achieving control, they have some limitations. The circumstances in which they are conducted and control obtained, the ways in which exposure to some special

experience is manipulated, and the ways and constrained time periods in which behavior is measured open them to criticism in regard to generalizability. Such criticism is less applicable to experiments performed in the field rather than in the laboratory, but under field circumstances the degree of control and precision is almost certain to be decreased. Nonexperimental studies such as those we are reviewing in this chapter, despite their inconclusiveness, are crucial to an understanding of relationships as they occur in real life. In this sense, they provide further real-life tests of experimental findings.

Nonexperimental studies have definite strengths. They do measure things as they actually occur--in all their variety, profusion, and complexity. They can falsify the applicability of hypotheses to real life; for example, if violence viewing and aggressiveness proved not to be associated, concern over causal links in either direction could be abandoned. They can supply suggestive hypotheses for experimental test. They also provide, when the population involved is diverse, considerable power for generalization.

The Challenge

The committee is left with a challenge. It would be easy and scientifically justifiable to abandon the search for real-world causal relationships with the declaration, "Not demonstrable." The more difficult and venturesome alternative course is to search for patterns in the data and to attempt to evaluate--to the extent that it is possible--the merits of causal interpretations. In this spirit of speculation, the following alternative interpretations are offered. No pretense is made, of course,

that these interpretations are in any way exhaustive of the possibilities.

Interpretation One: For some children, aggressive tendencies, whatever their origin, cause changes in television viewing behavior, so that those who show high aggressive tendencies will, as a result, subsequently watch or prefer more violent television programs, and those who show low aggressive tendencies will, as a result, subsequently watch or prefer fewer violent television programs.

Interpretation Two: For some children, the amount of violence viewing in television entertainment, however motivated, will lead to changes in aggressive tendencies, so that those with relatively high levels of violence viewing will, as a result, subsequently show an increase in aggressive tendencies.

Interpretation Three: For some children, a third variable or set of variables can account for or elucidate the observed correlational relationship. In other words, the level of violence viewing and the level of aggressive tendencies and the relationship between the two may be affected by one or more other explanatory variables. The various mechanisms by which this interpretation might operate will be discussed below.

First, however, it must be emphasized that these interpretations are not necessarily competitive. The size of the correlation coefficients and the nature of the available bivariate distributions would indicate that the relationship might be attributable to the behavior of a relatively small group of persons, and no one of the interpretations need account for the behavior of all members of this small group. It is quite conceivable that each interpretation is true for some persons; we need

not advance a universally applicable theory. By the same token, it is quite conceivable that one of the interpretations would explain the behavior of some person or group of persons at one time and that another of the interpretations would explain the behavior of the same person or group at some other time.

The statements of the first and second interpretations are deceptively simple. The incomplete character of these statements is attributable to the phrases "whatever their origin" (referring to aggressive tendencies) and "however motivated" (referring to the level of violence viewing). These phrases seem to imply that one enters the explanatory arena at a fixed instant in time, ignoring the preceding dynamics and measuring and interpreting from that time on. But suppose, in the case of Interpretation One, that the aggressive tendencies observed were attributable to some previous exposure to mass media portrayal of violence; then a shift in time perspective would turn Interpretation One into Interpretation Two. Or suppose that the aggressive tendencies were (as is quite likely) not innate but somehow produced by a combination of constitutional-environmental-social factors; then Interpretation One would devolve into Interpretation Three. The danger, of course, is that the search for reasonable causal interpretation will devolve into a search for first causes and that the problem will become that of the chicken and the egg.

Types of "Third Variables"

The introduction of a third variable requires some elaboration of the forms it may take and the mechanisms by which it can operate. Simply

stated, the introduction of a third variable into the analysis of the relationship between two variables may explain the relationship between the two variables, or it may explain the level of the two variables, or it may explain both.

> Such elucidation of the observed relationship may occur in one of several ways. Figure 1 indicates, in a stylized way, how a third variable can break the data into two groups in each of three ways.
>
> 1. The third variable (Figure 1, Case I) may pinpoint subgroups in which the relationship is particularly applicable and those in which it is inapplicable or less applicable; i.e., it explains the observed relationship, but may or may not be related to the observed levels of the original variables.
>
> 2. It may elucidate the relationship through the discovery of a common origin (Case II); i.e., it explains the level or range of the two original variables, but may or may not be related to the observed relationship between them.
>
> 3. In a very special case (Case III), the third variable may account for both the level of the two original variables and the relationship between them, in such a way as to demonstrate that the original observed relationship was spurious or potentially misleading.

Some hypothetical examples may help to explain. Consider first the simple interactive case: a positive correlation has been observed between violence viewing and aggressive tendencies. It is not reasonable to expect that this relationship is equally strong in all elements of the population. Certainly, such factors as sex, age, and socioeconomic status are likely to affect the relationship (if not also the level) of the two phenomena. The third variable, then, serves to split the population into two (or more) groups, and the finding is that the observed relationship is strong in one of the groups and weak, nonexistent, or even negative in the other group. An example of this phenomenon is found in Lefkowitz et al. (1971), in which the relationship was found only for boys. Much of this investigation of interactive third variables has been done by the authors of the studies we have reviewed. In the search for such interactive variables, one may find such variables correlated or uncorrelated with either or both of the original variables; in other words, it is quite possible that the two groups defined by the third variable may have the same range of levels and variability.

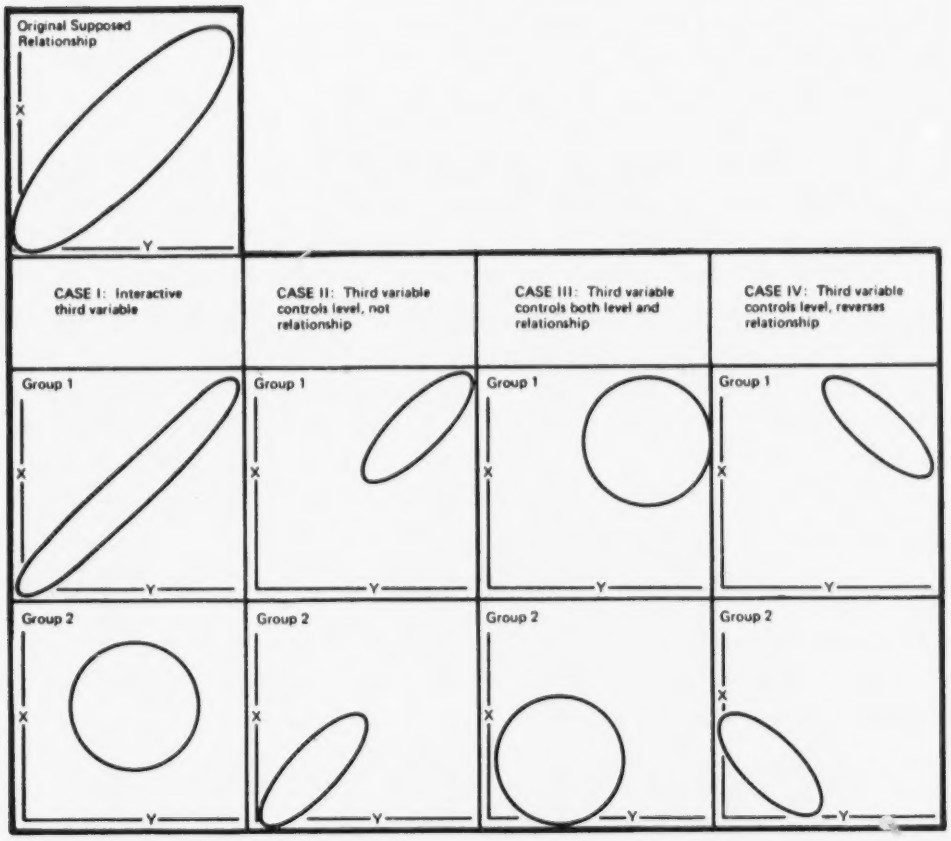
Original Supposed Relationship
X
Y
CASE I: Interactive third variable
CASE II: Third variable controls level, not relationship
CASE III: Third variable controls both level and relationship
CASE IV: Third variable controls level, reverses relationship
Group 1
Group 2

Figure 1: How 'third variables' operate

Consider next the kind of third variable that explains an observed relationship in terms of a common origin. This implies either that the third variable is precedent to the other two in time or that it provides an explanatory concept at a higher order of generality. This is the kind of explanation that suggests itself when the two original variables are symptoms of the same disease. The implication is that the two original variables are related because they have a common origin. Thus, frequency of sneezing and frequency of coughing are positively correlated. If the population is then divided according to those who have no colds, those who have mild colds, and those who have severe colds, we would discover that the level of the two original variables differed markedly in the three groups (in other words, that the third variable is highly correlated with the other two). The relationship between the two original variables in each of the three third-variable groups is not at stake here. In each of the three groups, the relationship between the two original variables might be identical to the overall relationship, or it might be quite different (Figure 1, Cases II, III, and IV). The fact that the third variable seems to control the level of the two original variables is sufficient to produce the original observed relationship. In the present area of interest, the search for such third variables might well concentrate on preexisting psychological states such as high aggressiveness, environmental conditions which promote aggressiveness, home atmosphere, and similar variables that might give rise to a characteristic level of hostility at which the subject operates and might indeed account for the level of the two "symptoms" observed. Unfortunately, the search is hampered by the fact that so little has been done to investigate the early childhood environment.

In some cases of "common origin" explanation, it may be discovered that the third variable not only controls the level of the two original variables but, indeed, controls the relationship; i.e., the third variable defines groups which differ from one another in mean level of the original two variables. In addition, within each of these defined groups, the original observed relationship disappears. As a hypothetical case, consider the relationship between presence of acne and interest in the opposite sex among young people. Chances are that the original relationship would be positive. Then, suppose that the group were divided into those before and after the onset of puberty. In each of these two third-variable groups, it would be quite possible to observe a null relationship between the two variables. The term "spurious" has sometimes been used to describe relationships which disappear when a third variable produces groups in which the original relationship disappears. Discovery of such third variables is a by-product and not necessarily the primary focus of the search for common origins.

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THE FINDINGS CONSIDERED IN THE LIGHT OF THE POSSIBLE INTERPRETATIONS

We turn now to consideration of the research findings in the light of the various interpretations cited above; but before we actually do so, a few words of review seem in order.

We have noted that the observed correlations between violence viewing and aggressive tendencies might be manifestations of one or more of three different processes, viz. (and stated somewhat summarily),

--that aggressive tendencies lead to violence viewing;

--that violence viewing leads to aggressive tendencies;

--that both aggressive tendencies and violence viewing, as well as the relationship between them, are products of some third variable or set of variables.

Two other points which have already been made also merit brief restatement. First, we have noted that the demonstration of one of the three processes would not preclude the occurrence of the others; rather, all three could be operative among different persons, or even in the same persons at different times. Second, and perhaps most important, we have noted that the correlational data available from the several reports reviewed in this chapter are by their nature inadequate to demonstrate causality. Under these circumstances, we have said, the most that we can do is search for and evaluate such specific data, or such patterns in the data, as appear to be consonant with or supportive of one or another of the interpretations, in the full knowledge that this exercise will provide no conclusive proof that any one of the three processes is actually in operation. We begin with data which appear to support the interpretation

that violence viewing leads to aggressive tendencies.

Evidence for the Interpretation that Violence Viewing Causes Aggression

Findings supportive of this interpretation are reported by Lefkowitz et al. (1971) and by McLeod et al. (1971b). Two findings are consonant with the occurrence of the process, and two others identify mechanisms by which the process might plausibly occur.

Lefkowitz reports a correlation of .31 between a measure of exposure to television violence among Grade 3 boys and peer ratings of aggression among the same boys ten years later. This finding, in and of itself, is supportive of the interpretation that relatively high early exposure to television violence produces, in some boys, aggressive tendencies which are manifested in behavior years later. However, other findings of the same study, together with certain unresolved problems regarding the measures employed, leave the dynamic not nearly as clear as the .31 correlation coefficient suggests, and are also supportive of an interpretation which would ascribe a considerable causal role to early (Grade 3 or earlier) aggressive tendencies, however these may have been engendered.

> Lefkowitz et al. collected data on the violence level of favorite television programs (hereafter "TVL") and aggression from rural New York state residents in the third grade, again in the eighth grade, and again in the "thirteenth" grade (one year after graduation from high school). Favorite programs were reported by mothers when the children were in Grade 3 and by the subjects themselves in Grades 8 and 13. The principal measure of aggression was a peer rating, containing such questions as,"Who starts a fight over nothing?"
>
> Lefkowitz found that for boys in Grade 3 there was a modest correlation (r=.21) between TVL and aggressive tendencies. No such relationship was found for the same boys at Grades 8 and 13 (r's=-.10 and -.05) nor for girls at any time. However, among boys, the "time-lagged correlation" between TVL at Grade

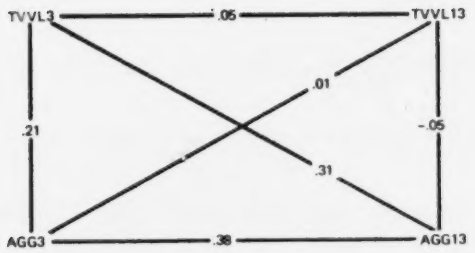
3 and aggression at Grade 13 was .31.

Several questions exist about the data which enter into this finding. The validity of mothers' reports of children's favorite programs at Grade 3 is uncertain, and such reports are in any case clearly not comparable with the self-reports obtained in later years. Perhaps more important, the peer-rating instruments used at Grade 3 and Grade 8 were essentially identical, but the instrument used at Grade 13 was phrased in the past tense (e.g., "Who started fights over nothing?" "Who used to say mean things?"), and the temporal reference of the replies is thus ambiguous; the Grade 13 youth may have been referring to the behavior of their prior classmates at different times across the ten-year span.

Data obtained from the boys at Grade 8 also complicate the process, although only a relatively small group was available at the time. As will be noted in Figure 2, TVL at Grade 3 correlated with aggression ratings at Grade 8 more weakly than the two had correlated at Grade 3 (.16 as compared to .21), and TVL at Grade 8 showed a null relationship (-.02) with aggression ratings at Grade 13. Thus, the predictive power of TVL appears to have been decaying across the span of years covered in the .31 correlation. The strongest relationships involving television were based on TVL at the earliest stage. Concurrently, however, the predictive power of aggression ratings appears to have been growing. Aggression ratings at Grade 3 correlated .48 with aggression ratings at Grade 8 and these in turn correlated .65 with aggression ratings at Grade 13. Across the entire ten-year span, aggression ratings at Grade 3 correlated .38 with aggression ratings at Grade 13. The predictive power of both TVL and aggression ratings behaves one way from Grade 3 to 8 and Grade 8 to 13, but another way across the overall ten-year span.

Examination of the bivariate distribution (scatter plot) underlying each of the correlation coefficients may help to clarify the situation.

The correlation coefficient between the index based on mother's report of program preferences when the child was about eight years old and the peer rating of past aggressive behavior when the boy was about 18 years old depends almost entirely on a small number of boys at the extreme high end of the preference scale who scored extremely high on the peer-rated measure of aggressive behavior (a measure with virtually no upper limit). Without question, these boys would justify



Cross-lagged correlations for boys between
"A preference for violent television" and "Peer-rated aggression
Over the five years before and after the eighth grade

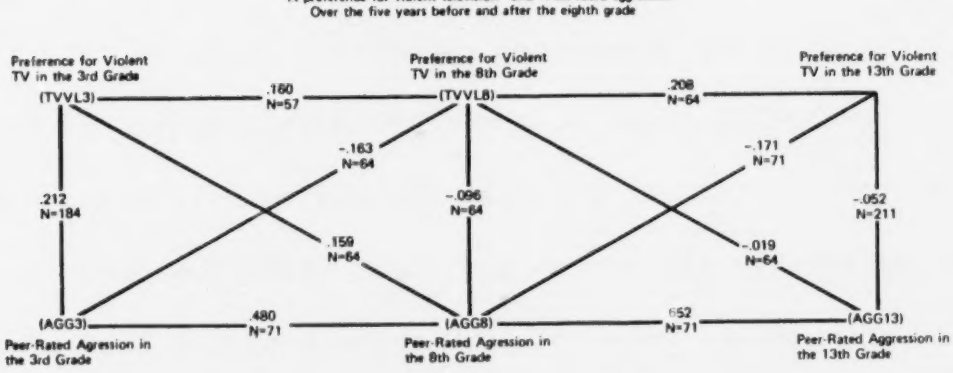


Figure 2: Correlations observed by Lefkowitz between television violence and aggression for 211 boys over a ten-year lag

> individual case study, but there appears to be hardly any relationship elsewhere in the range.

There seems little doubt that in these data aggressiveness is a continuing trait manifested by autocorrelation over time. At the same time, there is some indication that television viewing at an early stage (not later) may also have contributed to aggressiveness among a few boys.

In short, the data from the Lefkowitz et al. study may be interpreted in terms of two quite different, but not incompatible, developmental sequences. One of these emphasizes the correlation of .31 between mothers' reports of the children's radio and television program preferences at Grade 3 and peer-rated aggression at Grade 13. The other emphasizes the predictive power of the aggression measures in five-year steps. These findings suggest the need for additional research attention to early aggressive tendencies and their early sources.

McLeod et al. (1971b) asked their Wisconsin high school subjects "how frequently they had watched each of 13 shows that were on television three or four years ago" and constructed "an index of past violence viewing" from their replies. This measure correlated as well with current overall aggression scores as did the measure of current violence viewing.

> Thus, in reference to a pooled sample of junior and senior high school boys and girls, current violence viewing correlated

with the overall summed score of self-reports of aggression at .30, and past violence viewing correlated at .33. Both current and past violence viewing correlated at .17 with the overall summed score of others' reports of aggression. When the pooled sample is broken down by sex and age, the relationships are less regular.

These data, as far as they go, are consonant with the interpretation that violence viewing leads to aggressive behavior, for they indicate a relationship between earlier television exposure and later aggression. However, two points must be noted. First, the "past violence viewing" measure was less refined than the current violence viewing measure, in that it involved 13 programs as compared with 65 and relied upon subjects' retrospective recall to a period three or four years ago. Second, and more important, the investigators had no opportunity to obtain a past aggression measure. Had such a measure been available, and depending on its relationship to the other measures, it might variously have strengthened the likelihood that the viewing was the causal element, weakened that likelihood, or left the question in abeyance. Lacking such a measure, we can conclude only that the data cited are consonant with the interpretation that violence viewing leads to later aggression, but are not conclusive.

Mechanisms. If the available data were to indicate clearly that violence viewing does lead to aggression, a logical next question would be, "By what mechanisms?" We may inquire whether anything in the data suggests the existence of "plausible mechanisms" through which the process could occur. It is important to keep in mind that such an inquiry, in the face of data whose causal implications are not conclusive, is an exercise in hypothesis building, rather than in hypothesis testing. Failure

to find any such mechanisms would not nullify the possibility of the causal sequence occurring, but might merely indicate that the necessary mechanisms have not yet been discovered. Finding such mechanisms would in turn merely indicate means through which the causal sequence could occur.

Keeping these cautions in mind, let us consider what mechanisms might exist. Two obvious possibilities are identification and learning. If viewing violence on television did lead some youths to become more aggressive, it might do so through the viewers' identification with violent characters or through their learning of techniques of aggression or their development of attitudes more favorable to aggression.

McLeod et al. (1971a) investigated the relationship between both of these processes and violence viewing, and between both of these processes and aggression. "Identification with violent characters" was measured by replies to questions about the one person on television the respondent "would most like to be," and about which of several actors he would most "like to see at the movies." The scale was found to relate mildly to violence viewing (correlation coefficients of .21 and .15 in two pooled samples) and to relate somewhat better to aggression (.22 and .31).

The same investigators' scale of "perceived learning of aggression," further described below, related to violence viewing (.24 and .21) and more strongly to aggression (.53 and .33).

In assessing the role which "learning of aggression" might play in a behavioral dynamic, it is of course important to know precisely what is learned. The scales used in the studies under review contain items which variously bear on at least three different types of what might loosely be

called "cognitive effects." More specifically, individual items variously bear on

--acquisition of knowledge about techniques (e.g., how to hit someone);

--acquisition of knowledge of pertinent facts of life (e.g., that hitting someone is in fact one way of gaining ends);

--acquisition of values (e.g., that hitting someone is a preferred way of gaining ends).

For learning to increase the likelihood of aggressive behavior, the acquisition of knowledge about techniques and about facts of life is a necessary, but not a sufficient, condition unless values favorable to aggression were also learned or had previously been learned.

The scale of "perceived learning of aggression" employed by McLeod et al., which correlated with violence viewing .24 and .21, consists of five items which constitute a mix of all three types of cognitive effects noted above. McLeod et al. (1971a) also employed a scale called "linkage of television violence to real life," which was found to relate modestly to violence viewing (.27 and .21 in two pooled samples) and to aggression (.31 and .13), but the content of the scale is again somewhat ambiguous in reference to the type of perception or learning which it represents.

The data that deal with violence viewing in relation to evaluation of violence are not fully consistent. Dominick and Greenberg (1971) found no significant difference in "approval of aggression" between high-exposed and low-exposed subjects of either sex. McLeod et al. (1971b) found no meaningful relationship (a correlation coefficient of .09) between current

viewing of violence and "approval of aggression" within their pooled sample of junior and senior high school boys and girls in Wisconsin, but did find a relationship of .27 between past violence viewing and approval of aggression.

These data on "identification with violent characters" and on "perceived learning of aggression" (at least in other respects than evaluation of violence), are consonant with a violence viewing-to-aggression hypothesis. On the other hand, the propensity to identify with violent characters or to learn aggression can also be conceived as a preexisting psychological condition. Such a dynamic might be summarized as a propensity leading both to violence viewing and to aggression. This is in essence a "third variable" or "common origin" sequence.

We may now summarize the discussion of "plausible mechanisms." Briefly, three candidate mechanisms (identification, learning, and linkage to real life) have been identified, and each has been found to be related--in most instances modestly--to both violence viewing and aggression. The evidence for the operation of one plausible mechanism, that of learning favorable evaluation of violence, appears to be weak. If a causal relationship of the viewing-leads-to-aggression type does exist, however, the remaining mechanisms might be operative. This is not to assert that that sequence does exist, since the same mechanisms are equally consonant with a causal relationship involving an antecedent common origin of both viewing and aggression.

Summary: Correlational Evidence for the Interpretation that Violence Viewing Leads to Aggression

We may now summarize the correlational evidence for the interpreta-

tion that violence viewing leads to aggression. (In the next chapter we will bring together the correlational and experimental data.) Within the studies reviewed in this chapter, all of which present correlational data, two of the highest correlation coefficients (both at about the level of .30) involved correlations in which earlier viewing was correlated with later aggression ratings. These data are supportive of the interpretation that viewing leads to aggression, within the parameters of a relationship at the .30 level. However, certain technical questions exist regarding the adequacy of the measures. In addition (or perhaps as a result) the correlational findings are equally consonant with a common origin interpretation, in which both violence viewing and aggression are conceived to stem from an antecedent condition or set of conditions. A quest for "plausible mechanisms" by which the violence viewing-to-aggression sequence might operate provided some candidate mechanisms, but these again were equally consonant with a common origin interpretation. It should be re-emphasized that both a directly causal and a "third variable" process can be operating simultaneously. It is not an either-or choice.

Evidence for the Common Origin ("Third Variable") Interpretation

We turn now to consideration of whether the data contain any evidence supportive of or consonant with the interpretation that some antecedent condition or set of conditions may produce both violence viewing and aggression, or may in some way explain the association noted in the correlation studies. Since such an association, though a weak one, has been found, a scientific approach requires that instead of considering the matter explained, we explore for third variables that might explain

it. Some ways in which such a third variable might operate have been discussed above.

Since we are here primarily interested in "common origin" third variables, we will touch only lightly on "interaction" third variables, which serve chiefly to identify different population subgroups in which the relationship between violence viewing and aggression is variously stronger and less strong. Several such variables can be observed in the data, although their action is not always consistent across the various studies. Two examples of such inconsistently behaving interactive variables will perhaps suffice to make the point.

Socioeconomic status. Robinson and Bachman (1971) observed a modest monotonic relationship between the violence level of 19-year-old boys' favorite programs and certain indices of aggression. Controlling for "education of mother" nullified the monotonicity for some groups but not for others. On the other hand, McLeod et al. (1971a) found that controlling for socioeconomic status or for school performance did not affect the relationship between violence viewing and aggression in either their Maryland or Wisconsin mixed sex samples.

Age and sex. Upon breaking down their samples by sex and age, McLeod et al. (1971a) found the relationship between violence viewing and aggression to be at its lowest among junior high school boys, and generally to be as strong or stronger among girls than it was among boys. Dominick and Greenberg likewise found the relationships they tested generally higher among fourth to sixth grade girls than among fourth to sixth grade boys. Lefkowitz et al., on the other hand, found virtually

no relationship between their principal exposure and aggression measures for girls in Grade 3, 8, or 13, or across any of these time spans.

Sex differences, insofar as they exist, could in fact constitute a candidate common origin variable. If, for example, it were consistently found that a relationship between exposure to television violence and aggression existed for boys but not for girls, it could be plausibly hypothesized that sex role conditioning was in itself sufficient to preclude the relationship developing among girls and (by the other side of the coin) to maximize the likelihood of its development among boys. However, as we have noted, the findings of these studies in reference to sex differences are far from consistent. Clarification of these inconsistencies is obviously necessary before sex role conditioning can meaningfully be considered a plausible candidate for a common origin variable.

Other candidate common origin variables exist in the data at hand, although none can be observed to be serving such a function completely, nor even sufficiently to validate it as a definite common origin variable. We will here discuss three such variables, or types of variables: preexisting levels of aggression, subjective or personality factors, and a group of variables related to the attitudes and behavior of the respondents' families.

Preexisting Levels of Aggression

Robinson and Bachman found that controlling for levels of aggression one year ago virtually eliminated the relationship between preference for violent programs and aggression for some 90 percent of their sample, and destroyed the monotonicity of the relationship for the remaining and most

aggressive ten percent.

This finding can be interpreted as supportive of a common origin interpretation, with the third variable being the condition or conditions which produce the earlier levels of aggression. The interpretation is weakened, however, by the lack of a parallel early program preference measure (which could strengthen or weaken the interpretation) and by the fact that the male respondents were 19 years old at the time of the survey. Both their characteristic levels of aggression and their viewing preferences may by that age, or even a year earlier, have attained sufficient stability to be beyond any further interactive effect upon each other. Indeed, the data do not rule out the possibility that one of the antecedent determinants of their aggression level may have been their program preferences at some earlier stage of development.

Personality Factors

The data at hand contain several discrete findings which, though not individually particularly impressive, hint at a possible personality factor, or set of factors, which deserve investigation as a possible common origin variable. Thus, as previously noted, Robinson and Bachman found that controlling for aggression level a year ago nullified a previously observed relationship between violence level of favorite programs and aggression for all but the most aggressive ten percent of their sample--a finding which suggests the possibility of a qualitative as well as quantitative difference between the ten percent and the 90 percent. In related vein, available details regarding Lefkowitz et al.'s sample of boys suggest that the observed relationship between violence level of

favorite programs and aggression may be essentially a product of a very small number of extremely aggressive boys. Again, in the same vein, McIntyre and Teevan found that only about ten percent of their sample agreed with either of two statements about their favorite program ("The main character shoves people around" and "The rough guy gets his way"). The ten percent who agreed with either statement were more aggressive than the others, perceived violence in programs where others did not perceive it, and possessed various other deviant traits.[1]

Possibly related to the McIntyre and Teevan finding is the statistical behavior of a variable called by McLeod et al. "perceived learning of aggression." We have already noted that this index correlates with aggression more strongly than does violence viewing and have suggested that it could serve as a "plausible mechanism" in a violence viewing-to-aggression dynamic. We have suggested also that, to the degree that selective learning is a manifestation of a psychological set, that psychological set is a candidate for a common origin variable.

Taken together, these isolated findings from several studies suggest the possible existence of a set of traits characteristic of about ten percent of youth--or at least of boys--which merits better definition and

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[1] Controlling for agreement with either statement completely eliminated a previously observed relationship between violence level of favorite programs and "aggressive" or "serious" deviance in both the ten percent and 90 percent groups, leading the investigators to state "that the subjects' perception of violence is more closely related to deviant behavior than is the objective rating of the violence content of television shows." Precisely what psychological characteristic of the respondents' psychological make-up was tapped by these statements is unclear, and the relationship which was nullified was originally so trivial (r's=.04 and .06) as to call into question the validity of the authors' quoted statement.

measurement than it has yet received, and which merits investigation to see whether it is a common source of both violence viewing and aggression.

Variables Relating to the Family

In reference to a host of topics other than exposure to television violence and its correlates or effects, the attitudes and behaviors of young persons' parents have been found to be important, and in some instances critically determinative, influences upon the attitudes and behavior of the young persons themselves. The data at hand suggest that "family" may well also play an important role in whatever causal sequence produces an association between violence viewing and aggression. Unfortunately, however, the available data are limited in scope. In sum, they cannot be said to identify "family" as a common origin third variable; they can rather be said to suggest its candidacy for such a function and to underline the need for further investigation of the role of "family" in this process.

Dominick and Greenberg tested the relative strengths of association between aggressive attitudes and three "antecedent variables," viz., "family attitudes toward violence," "social class," and "exposure to television violence." Their scale of "family attitudes" consisted of seven questions on how children "thought their parents feel about various forms of violence." Because many of the respondents could not provide adequate answers, the group was split into two groups: those whose families were "definitely antiviolence" and those whose parents had not demonstrated disapproval.[2] The failure of families to demonstrate

[2]These definitions will be found in Dominick and Greenberg (1971). Tables refer to the two groups as "low approval" and "undefined" respectively.

disapproval was found to be more strongly related to aggressive attitudes than was "exposure to television violence" in regard to every attitude scale employed and in regard to both boys and girls. Interpretations of this finding must be tempered by the fact that the child's perception of his family's attitude may tell us more about his attitude than theirs, and by the fact that "exposure to television violence" was found to have some independent relationship with aggressive attitudes.

Within the studies under review, virtually all other data bearing on the relationship of "family" to the association between violence viewing and aggression are found in McLeod et al. (1971a and 1971b). Neither the considerable number of pertinent variables treated by these investigators nor the extensive data thereby generated can be adequately treated within this summary report. Suffice it here to say that all of the variables were measured by indices composed of several questions, and that in reference to several such indices the replies of the youth and their parents are combined.[3]

Two of these variables, "parental control over television viewing" and "parental interpretation of television violence," cannot be regarded as "common origin candidates" in and of themselves, but could conceivably be manifestations of more general aspects of child rearing. Furthermore,

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[3] More specifically, McLeod et al. (1971a) employed a sample of Maryland youth and a sample of Wisconsin youth. McLeod et al. (1971b) dealt more fully with the same Wisconsin sample, but did not deal with the Maryland sample. The measures in McLeod et al. (1971b) are in many cases refined as compared with similarly named measures in the earlier study. These more refined measures are, where possible, used in this summary. The use of the less refined measures, when available for parallel inquiries, would in general either present a weaker case or would not appreciably change the thrust of the data.

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they bear directly upon violence viewing. One of these, "parental control over television viewing," was found to bear virtually no relationship to the association between violence viewing and aggression (controlling for this variable left the originally observed correlation coefficient virtually unchanged). The other variable, "parental interpretation of television violence," refers to "how often" parents "used to" indicate to their children that interpersonal violence in "western and crime shows" was unlike real life and an undesirable way of solving problems. Surprisingly, the relationship between violence viewing and aggression was found to be higher among youth whose parents relatively often engaged in such interpretation than it was among youths whose parents less often provided such interpretations. A tempting speculative explanation of this finding is that parents may be more likely to provide "interpretation" for youth who view a great deal of television violence, but the available data do not provide much evidence either for or against this supposition.[4]

Other aspects of parental attitudes and behavior investigated by McLeod et al. are more generic and thus are more logical candidates for common origin variables. Of these, the most fully treated are "parental affection," "parental punishment," "parental emphasis on nonaggression," and "family communication patterns."

"Parental affection" was assessed in McLeod et al. (1971a) by respondents' replies to a single question ("How often do your parents...

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[4]"Parental interpretation of television violence" was found to be related to violence viewing at the approximate level of r=.15 in each of two pooled samples, and to be essentially unrelated to summed self- or other-reports of aggression (r's ranging from -.03 to .07).

show that they love you?") and in McLeod et al. (1971b) by the combined answers of respondents and mothers[5] to that question and two others ("... tell you they love you" and "show their affection by hugging and kissing you"). As so measured, "parental affection" was found to be essentially unrelated to violence viewing, to aggression, or to the relationship between them. Doubts may arise about the adequacy of the measure, and further inquiry, employing a more refined measure, is obviously desirable before "parental affection" can be regarded as unrelated to the phenomenon under investigation.

Parental Punishment, Including "Restrictive Punishment"

McLeod et al. employed a five-item index of parental punishment. A series of statistical operations, using their most refined measures, indicated that "parental punishment" and "violence viewing" were independently related to aggression, and at almost the same level.[6] Parental punishment, as thus defined and measured, therefore cannot be regarded as a strong candidate for a common origin variable.

The same investigators, however, also separated components of the five-item "punishment scale" into measures of "physical punishment," "verbal punishment," and "restrictive punishment." The latter index was found to be significantly related to both violence viewing and aggression in

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[5]Appropriate pronoun substitutions were provided for mothers, e.g., "...tell him that you love him."

[6]Violence viewing correlated .26 with aggression, with "parental punishment" and "parental affection" simultaneously partialled out. "Parental punishment" correlated .20 with aggression, with violence viewing and "parental affection" simultaneously partialled out. The partial effect of "parental affection" was negligible (McLeod et al., 1971b).

two pooled samples. In one sample, "restrictive punishment" proved to be more strongly related to aggression, as measured by others' reports (.41) than was violence viewing (.17). The question thus arises whether "restrictive punishment" or some frustrating child rearing practice it manifests may be a common origin variable, but the available data unfortunately provide no basis for further inquiry.

Parental Emphasis on Nonaggression

Under this rubric, McLeod et al. inquired into the degree to which parents discouraged their children from being "mean to other kids," fighting back in self-defensive situations, doing "the bad things people do on television," and (in reference to one sample) behaving aggressively in hypothetical situations. Although this index was found to have only a trivial and generally negative relationship to either violence viewing or aggression (Chaffee and McLeod, 1971b), it was nevertheless found to be very strongly related to the relationship between violence viewing and aggression. Thus, the investigators report that "the average correlation (between violence viewing and all measures of aggression in both of the samples) is .26 in families where little stress is placed upon nonaggression; in families where such an emphasis is found, the average correlation is only .07."[7] Parental emphasis on nonaggression emerged as a strong candidate for a third variable. Where such emphasis is low, the relation-

[7]A decreased correlation in the presence of high parental emphasis on nonaggression, as compared to low parental emphasis on nonaggression, was furthermore observed in all but one of the eight sex-and-age subgroups, the single exception being senior high school boys in the Wisconsin sample. McLeod et al. (1971a) and McLeod et al. (1971b) confirm the direction of effect.

ship between violence viewing and aggression occurs; where it is high, the relationship is markedly reduced. This finding is consonant with the earlier mentioned finding of Dominick and Greenberg, to the effect that family attitudes regarding violence are more strongly related to aggressive attitudes than is violence viewing for fourth-to-sixth-grade boys and girls. Taken together, the two findings strongly underscore the need for more extensive inquiry into the role which pertinent family attitudes play in the relationship between violence viewing and aggression.

Family Communication Patterns

For some years prior to the institutuion of the present research program, Chaffee, McLeod, and their colleagues had been studying various types of "habitual structure...of parent-to-child communication" (Chaffee and McLeod, 1971b). Partly before and partly within the present program, some of these investigators have examined the relationships between these patterns and media use and between these patterns and aggression.

The array of identified patterns is too complex to describe in any detail in this summary report. Suffice it here to say that two basic dimensions were identified and respectively labeled "socio-oriented" and "concept-oriented." The "socio-oriented" dimension involves "parents urging the child to keep discussions pleasant, avoid controversy, defer to his elders, and generally maintain harmony at the expense of his own ideas and opinions" (Chaffee and McLeod, 1971b). The "concept-oriented" dimension, in contrast, involves "encouraging the child to challenge parental beliefs, to reach his own conclusions...(and to be aware of) contrasting views on controversial issues." The investigators found that

"about equal numbers of families stress either, neither, or both of these orientations."

It seems reasonable to suggest that emphasis upon the "socio-orientation" pattern would seem likely to engender considerable frustration in the child, whereas emphasis on "concept orientation" would seem likely to minimize frustration at least as regards child-parent communication.

McLeod et al. generally found relationships between these concepts and either violence viewing or aggression to be in the direction which the frustration hypothesis would suggest. Youth living under the presumably frustrating high "socio-orientation" patterns view significantly more violence than do those living under low "socio-orientation" patterns. With respect to self-reported aggressiveness, the highest scores are found under the presumably most frustrating conditions (high socio-orientation, low concept-orientation). With respect to both self-reported and other-reported aggressiveness, lowest scores are found under the presumably least frustrating conditions (high concept-orientation, low socio-orientation) [Chaffee and McLeod, 1971b].

The crucial question--whether these family communication patterns may be common origin third variables--can be answered only by testing the relationship between violence viewing and aggression within each of the four patterns. The question remains unanswered, and parent-child communication patterns remain viable but as yet unvalidated candidates for common origin third variables.

Summary: Evidence for the Common Origin Interpretation

The data in the studies here under review have been examined for

evidence consonant with the interpretation that some antecedent condition or set of conditions (one or more "third variables") may produce both violence viewing and aggression, or may in some way explain the association noted between them.

Although we have been primarily interested in possible "common origin variables," we noted in passing some "interactive" third variables, which identified different population subgroups in which the relationship between violence viewing and aggression was variously stronger and weaker. The behavior of these interactive variables was found to be inconsistent across studies. Socioeconomic status, for example, was found to serve this function in one study, but not in another. Sex was found to serve such a function in at least three studies, but in diametrically opposite ways: in two studies the relationship was found to be as strong or stronger for girls than it was for boys, while in one virtually no relationship was found for girls.

Preexisting levels of aggression were found in one study (Robinson and Bachman) to operate in a manner consonant with the common origin interpretation, but unavoidable limitations of the data left in abeyance the question of whether or not they actually served such a role. Personality factors, or what might well be personality factors, were found in several studies to operate in a manner indicating the need for further investigation, but the data at hand were again deemed inadequate either to validate or to reject the candidacy of these factors for the role of common origin variables.

A number of variables relative to parental attitudes and behavior were examined. Two of these could be regarded only as manifestations of

possible common origin candidates, but they were noted because of their direct bearing on television viewing and aggression. Of these, one, "parental control over television viewing," was found to bear no relationship to the association between violence viewing and aggression (McLeod et al.); the other, "parental interpretation of television violence," was found to be associated with high relationship between violence viewing and aggression (McLeod et al.), possibly because its occurrence might be a response to considerable such viewing on the part of young people.

Among more logical candidates for common origin variables, McLeod et al. (and for the most part only these investigators) examined a number of generic aspects of familial attitudes and behaviors. They found that "parental affection" was unrelated to violence viewing, to aggression, or to the relationship between them, but questions exist about the adequacy of this measure. "Parental punishment" was found by the same investigators to be associated with both violence viewing and aggression, but its association with aggression was found to be independent of violence viewing, rather than to be the source of violence viewing.

"Parental emphasis on nonaggression" was found by McLeod et al. to be strongly related to the association between violence viewing and aggression, to the degree that the association was greatly reduced among youth whose parents strongly emphasized nonaggression. Related and supportive data were noted by Dominick and Greenberg, who found that family attitudes toward violence were more strongly related to aggressive attitudes in preadolescents than was violence viewing. Family attitudes toward aggression and violence thus remain a viable candidate for the role of a common origin, or controlling, variable.

Parent-child communication patterns were found by McLeod et al. to be strongly related to violence viewing and to aggression. Communication patterns presumably creating frustration were found to be strongly associated with high violence viewing and high aggression, while patterns presumably minimizing such frustration were found to be associated with low violence viewing and low aggression. Because the relationship of these patterns to the association between violence viewing and aggression has not yet been adequately investigated, these patterns can at present be regarded only as promising, but not validated, candidates for common origin variable status.

Thus, several candidate common origin or explanatory variables have been identified in the data. Several have failed to operate statistically in a manner consonant with common origin interpretations. Others have not been analyzed sufficiently to permit meaningful inferences about the possibility of their serving as common origin variables. At least two, "parental emphasis on nonaggression" and "family communication patterns," have operated in manners consonant with such an interpretation, but the pertinent data are as yet too limited to validate common origin status for either one.

The common origin interpretation remains viable, however, despite the fact that these variables, as defined by the scales employed, do not completely explain or nullify the observed relationships between violence viewing and aggression. Improved measures might change the picture, and so might the combination of several of these variables into a composite index of related conditions. Finally, and probably most important, necessary limitations of the studies at hand have left largely unexamined a

considerable number of variables which have been found to be important or determining influences on other behaviors and attitudes. A continued examination of possible third variables is clearly indicated. Findings both in other areas and in these studies suggest that such investigation might profitably focus on personality factors and on aspects of family and peer attitudes and behaviors which are both more inclusive and more precise than those which have thus far been employed.

GENERAL SUMMARY

The research studies whose findings are reviewed in this chapter all report answers by adolescents, or in some cases by younger children, to questions presented in surveys. In general, the questions were designed to elicit data on exposure to television violence and on aggressive tendencies. The data were analyzed by the investigators to determine whether there was any relationship between such exposure and aggressive behavior.

Measures

One or more measures of television behavior and one or more measures of aggression were used in every study. The measures varied considerably.

Behavior in regard to television was variously measured by time spent viewing, by preference for violent programs, and by amount of viewing of violent programs. Pertinent findings suggest that the three are not equivalent measures for characterizing exposure to television violence. Under the circumstances, and lacking definitive tests, it seems reasonable to suppose that "amount of violence viewing" is the best measure of

such exposure.

The measures of aggression differed along various dimensions and along a range within each dimension. Behavior reported upon differed in degree of reprehensibility, in degree of actuality (including, for example, actually accomplished behavior and projected behavior in hypothetical situations), in source (self-reports and others' reports), and in temporal reference (current and past). Pertinent data indicate a degree of communality among these measures, coupled with considerable differences between them. It is therefore important to inquire into what measures of aggression were involved in relationships found to be weak and what measures were involved in the obviously stronger relationships.

Findings

The several studies investigated the relationship between exposure to television violence and aggression, employing various measures to do so. Most of the relationships observed were positive, but most were also of low magnitude, attaining levels ranging from null relationships to .21. A few of the observed relationships, however, reached levels at or just above .30. These were the relationship between violence viewing and summary self-report aggression scores reported by McLeod et al. (.30 and .32), and the correlation of .31 reported by Lefkowitz between mothers' statements of boys' favorite programs at Grade 3 and peer-rated aggression of the boys ten years later.

On the basis of these findings, and taking into account their variety and their inconsistencies, we can tentatively conclude that there is a modest relationship between exposure to television violence and

aggressive behavior or tendencies, as the latter are defined in the studies at hand. The question which must therefore be considered is what this relationship signifies. More specifically, (1) what is indicated by correlation at the .30 level, and (2) since correlation is not in itself a demonstration of causal relationship, what can be deduced from these data regarding causation?

The Meaning of Correlation Coefficients and the Basis of Causal Inference

Because the data of this chapter consist so largely of correlation coefficients, the meaning and limitations of this type of statistic must be kept in mind. As explained more fully within the chapter, a correlation coefficient of .30 may betoken any of several types of relationship, some of which do and some of which do not involve the majority of the individuals studied. We discussed "variance accountability" in Appendix E and cautioned against common misinterpretations of this technical term. Finally, we noted that positive correlation coefficients indicate that a relationship exists, but do not indicate whether that relationship is causal. In reference to the present topic, the correlation coefficients indicate that a modest relationship exists between violence viewing and some types of aggression. This relationship could conceivably manifest any or all of at least three causal sequences:

--that violence viewing leads to aggression;

--that aggression leads to violence viewing;

--that both violence viewing and aggression are products of a third variable or set of variables.

Evidence for the Interpretation that Violence Viewing Causes Aggression

Within the studies reviewed in this chapter, all of which present correlational data, the two highest correlation coefficients (both at about the level of .30) involved correlations in which earlier viewing was correlated with later aggression ratings. In and of themselves, these data are supportive of the interpretation that viewing leads to aggression, within the parameters of a relationship at the .30 level; but certain technical questions exist regarding the adequacy of the measures. In addition the findings are equally consonant with a common origin interpretation in which both violence viewing and aggression are conceived to stem from an antecedent condition or set of conditions.

The data were examined for "plausible mechanisms" by which violence viewing might cause aggression, if that were in fact occurring. Three such possible mechanisms ("identification," "perceived learning of aggression," and "linkage to real life") were identified. All of these, however, are equally plausible components of a process in which some antecedent condition or conditions served as the common origin of both violence viewing and aggression.

Evidence for the Common Origin Interpretation

The data in the several studies were examined for findings supportive of the common origin interpretation.

In the course of this examination, several "third variables" were noted. While neither explaining nor accounting for the relationship between violence viewing and aggression, these variables identified

subgroups of the population in which that relationship was variously weaker and stronger. However, the findings in reference to these variables were not consistent across studies: in two studies, for example, the relationship between violence viewing and aggression was found to be as strong or stronger for girls than it was for boys, while in another study virtually no relationship was found for girls.

A number of candidate common origin variables were identified: preexisting levels of aggression, underlying personality factors, and a number of aspects of parental attitudes and behavior. Data on "family" variables related to parental control of television viewing, parental interpretation of television violence, parental affection, parental punishment, parental emphasis on nonaggression, and types of parent-child communication patterns.

Of this group of candidate common origin variables, several failed to operate statistically in a manner consonant with common origin interpretations. Others have not been analyzed sufficiently to permit meaningful inferences about the possibility that they are common origin variables. At least two, "parental emphasis on nonaggression" and "family communication patterns," have operated in ways consonant with such an interpreation, but the pertinent data are as yet too limited to validate common origin status for either one.

The common origin interpretation remains viable, however, despite the fact that the candidate variables here observed, and as here measured, do not completely explain or nullify the observed relationship between violence viewing and aggression. Improved measures, including indices which represent combinations of antecedent conditions, might possibly

change the picture. In addition, there is need for further and more refined investigation of the role played by personality factors and by family and peer attitudes and behaviors.

Conclusion

The studies reviewed in this chapter indicate that a modest relationship exists between the viewing of violence on television and aggressive tendencies. Because all of the studies present correlational data, definitive conclusions about causal relationships cannot be drawn. The evidence reviewed here is consonant both with the interpretation that violence viewing leads to aggression to a limited degree and among a limited number of young people, and with the interpretation that both the viewing and the aggression are products of an as yet unidentified third variable. The data are also consonant with the interpretation that both these processes occur simultaneously.

CHAPTER 8

CURRENT KNOWLEDGE AND QUESTIONS FOR FUTURE RESEARCH

In this brief closing chapter we shall try to do two things: draw together the evidence from laboratory studies of children's responses to filmed violence (reviewed in Chapter 6) with the evidence from field surveys of television viewing and aggressive behavior (reviewed in Chapter 7), and identify remaining gaps in knowledge which future research should address if we are to know with confidence what television viewing does to affect the development of children.

INDICATIONS FROM THE DATA

The best predictor of later aggressive tendencies in some studies is the existence of earlier aggressive tendencies, whose origins may lie in family and other environmental influences.

Patterns of communication within the family and patterns of punishment of young children seem to relate, in ways that are as yet poorly understood, both to television viewing and to aggressive behavior. The possible role of mass media in very early acquisition of aggressive tendencies remains unknown. Future research should concentrate on the impact of media material on very young children.

While the data are by no means wholly consistent or conclusive, there is evidence that a modest relationship does exist between the viewing of violence and aggressive behavior. The correlational evidence from field studies is amenable to either of two interpretations: that the viewing of violence causes the aggressive behavior, or that both the viewing and the aggression are joint products of some other common source. Several findings reviewed in Chapter 7 can be cited to sustain the hypothesis that viewing of violent television has a causal relation to aggressive behavior, though neither individually nor collectively are the findings conclusive. First, we note that, among the correlations of violence viewing with aggressive behavior, two of the strongest ones, on the order of .30, are between <u>earlier</u> viewing patterns and <u>later</u> aggressiveness; both of these findings, however, involve methodological problems and could be explained by operation of a "third variable" related to preexisting conditions.

Second, the experimental studies reviewed in Chapter 6 provide some additional evidence bearing on this issue. Those studies contain indications that, under certain limited conditions, television viewing may lead to an increase in aggressive behavior. The evidence is

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clearest in highly controlled laboratory studies and considerably weaker in studies conducted under more natural conditions. Although some questions have been raised as to whether the behavior observed in the laboratory studies can be called "aggressive" in the consensual sense of the term, the studies point to two mechanisms by which children might be led from watching television to aggressive behavior: the mechanism of imitation, which is well established as part of the behavioral repertoire of children in general; and the mechanism of incitement, which may apply only to those children who are predisposed to be susceptible to this influence. There is some evidence that incitement may follow nonviolent as well as violent materials, and that this incitement may lead to either prosocial or aggressive behavior, as determined by the opportunities offered in the experiment. However, the fact that some children behave more aggressively in experiments after seeing violent films is well established.

The experimental evidence does not suffer from the ambiguities that characterize the correlational data with regard to third variables, since children in the experiments are assigned in ways that attempt to control such variables. However, the experimental findings are weak in various ways, and not wholly consistent from one study to another. Nevertheless, they provide some suggestive evidence in favor of the interpretation that viewing violence on television is conducive to an increase in aggressive behavior, although it must be emphasized that the causal sequence is very likely applicable only to some children who are predisposed in this direction.

Thus, there is a convergence of the fairly substantial experimental evidence for short-run causation of aggression among some children by viewing violence on the screen and the much less certain evidence from field studies that extensive violence viewing precedes some long-run manifestations of aggressive behavior. This convergence of the two types of evidence constitutes some preliminary indication of a causal relationship, but a good deal of research remains to be done before one can have confidence in these conclusions.

The field studies and the laboratory studies also converge on a number of further points.

First, there is evidence that any sequence by which viewing television violence causes aggressive behavior is most likely applicable only to some children who are predisposed in that direction. While imitative behavior is shown by most children in experiments on that mechanism of behavior, the mechanism of being incited to aggressive behavior by seeing violent films shows up in the behavior only of some children who were found in several experimental studies to be previously high in aggression. Likewise, the correlations found in the field studies between extensive viewing of violent material and acting in aggressive ways seem generally to depend on the behavior of a small proportion of the respondents who were identified in some studies as previously high in aggression.

Second, there are suggestions in both sets of studies that how children respond to violent film material is affected by the context in which it is presented. Such elements as parental explanations, the

favorable or unfavorable outcome of the violence, and whether it is seen as fantasy or reality may make a difference. Generalizations about all violent content are likely to be misleading.

Thus, the two sets of findings converge in three respects: a preliminary and tentative indication of a causal relation between viewing violence on television and aggressive behavior; an indication that any such causal relation operates only on some children (who are predisposed to be aggressive); and an indication that it operates only in some environmental contexts. Such tentative and limited conclusions are not very satisfying. They represent substantially more knowledge than we had two years ago, but they leave many questions unanswered. We turn now to review the questions that still need answering.

FOCUS ON THE FUTURE

The research reviewed here has uniformly been sharply focused on exposure to televised violence on the one hand, and on aggressive tendencies on the other. The narrowness of this focus is not surprising, but exposure to televised violence does not exist in a vacuum. The narrowness of concentration in these studies has severely hampered the interpretation of results. Some of the most important questions that this committee would like to answer are relegated to the realm of future research.

The research to date has whetted rather than satisfied our desire to increase our understanding of the complex psychological and social

influences leading to antisocial tendencies. On the basis of the findings we have reviewed in this report, we recommend that future research concentrate in the following areas:

(1) Television in the context of other mass media. It is reasonable to expect that there is a positive relationship between an individual's use of television and his use of other mass media. As indicated earlier, when a stimulus exists in a constellation of highly related stimuli, any member of the constellation can, if studied in isolation, receive credit for the responses evoked by the entire constellation. So far, the attempts to isolate exposure to television have resulted in possible confounding of attribution.

(2) Mass media in the context of the total environment, particularly the home environment. If the analogy is not too far-fetched, we would recall that "high fever" is seldom if ever listed as a cause of death; yet if high fever were studied in the same isolated way that exposure to television has been studied, we might reach some startling conclusions. The importance of developmental history and social environmental context is emphasized in the testimony of Federal Communications Commission Chairman Dean Burch before the Subcommittee on Communications of the Senate Commerce Committee. On September 28, 1971, Chairman Burch posed the question: "To what extent does what the young viewer brings to the TV screen determine what he carries away--which is another way of asking where the television ranks among all the other aspects of a child's environment?"

Indeed, the studies reviewed in Chapter 6 suggest several

specific directions for further exploring the relationship between television and aggression. First, identify the predispositional characteristics of those subgroups of children who display an increase in aggressive behavior in response to televised violence. Second, ascertain at what ages different reactions occur. Third, check on the moderating influence of labeling, contextual cues, and other factors under the control of television producers which may reduce the likelihood that predisposed children will react adversely to televised violence. Fourth, further investigate the possibility that content other than violent content may increase the likelihood of subsequent aggressiveness, the possibility that violent content may instigate other behavior besides aggressiveness, and the applicability of such findings to preschool children, youngsters, and adolescents. Finally, we must call attention once again to the gap in longitudinal research on the effects of television programs on children. This gap needs to be filled before we can learn something dependable about the long-term effects of repeated exposure to standard television fare on the personality development of the child.

(3) Functional and dysfunctional aggressive behavior. The lines which separate violence, hostility, aggression, and vigorous competition tend to become blurred in studies of the kind we have reviewed. Certainly, our society does not assign negative value to all these concepts; although traditional sex roles may be breaking down, there are few boys who are not taught to "stand up for your rights and defend yourself." There are those who argue that the realities of life

require a certain set or readiness for aggressive behavior. The study of values, mores, and the realities of adaptation in this area would provide an important backdrop for our interest in media effects.

(4) Modeling and imitation of prosocial behavior. In our concentration on potential antisocial effects, we have seriously neglected any balancing effect that may occur. Perhaps this question ought to be more broadly stated as a cost-benefit problem, involving a balance between potential damage and potential benefit. In the current trend toward rejection of alleged overpermissiveness, are we risking a swing of the pendulum all the way to overprotection and overmanipulation? To state this position another way: we want children to climb trees, even though it would be easy to prove that tree climbing causes broken legs.

(5) Teaching and learning of values about violence. We have noted and deplored the paucity of research about the manner in which values with respect to many areas of behavior, including violence, are transmitted, and about the role played by television and other mass media in this communication. In the long run, societal values are shaped by a great variety of environmental forces and institutions; television programs may contribute a great deal or only a small amount to the process. It is conceivable that prolonged exposure of large populations to television violence may have very little immediate effect on the crime rate, but that such exposure may interact with other influences in the society to produce increased casualness about violence which permits citizens to regard with increased indifference actual

suffering in their own or other societies, and to reflect that indifference in major political and economic decisions. Research may indicate that such fears are unfounded, but the research needs to be done.

(6) Symbolic functions of violent conflict in fiction. The experience of humanistic scholars suggests that, for adults at least, violent content in fiction is sometimes a vehicle for presenting to a general audience "messages" about important social and cultural issues. The authors and producers need not be fully aware that they are doing this. The Oedipus plays are perhaps the best-known example from the humanities. They have widely been held to be not merely "violence on stage," but also powerful statements in a symbolic medium about pervasive psychological or cultural conflicts. To suppose that plays about the tragic life of King Oedipus were significant to the early Greeks merely because people liked stories about violence would be simplistic. It would likewise be far-fetched to accuse the Greek theater of inciting Greek warriors to repeated assaults on Troy by exposing them to episodes of meaningless violence.

There is a considerable body of literature on the symbolic meanings of primitive (and not-so-primitive) myths and legends, which often are extremely violent. Anthropological literature supports the contention that, whatever else it may do, such folk literature communicates conventional social values and moral standards, and also provides folk interpretations of the pervasive conflicts and problems of life in a given society at a particular point in its history. It

would be desirable to look upon television drama and cartoon programs--crude as they may be--as folk literature in this sense. It would be important, in order more fully to understand the role of television in American life, to investigate the latent symbolic "messages" that even violent television plays and cartoons may convey over and above the content of individual scenes.

These are but a few examples of the kinds of research that have been discussed at meetings of the Advisory Committee; for the good reasons described earlier, little attention has been paid thus far to the contextual, developmental, and societal variables. It is our sincere hope that, as pertinent research continues, these more fundamental questions will be attacked.

CHAPTER 9

THE UNFINISHED AGENDA

The committee has not had an opportunity to process this chapter in the way in which it has dealt with the foregoing sections. Therefore, since we have not been able to subject this material to the same procedures of detailed review and discussion we have applied to the other chapters, the material to follow represents, to a greater extent than the foregoing, personal opinions and points of view rather than a formal position of the committee. However, the committee endorses the spirit and intent of these concerns as representing a significant broadening of the perspective of this report, and feels that even though they have been incompletely worked over by the group they should be made available to the readers of this report.

FURTHER NOTES ON COMMITTEE PROCESS

When a committee as diversely composed as this one embarks upon a project as global as studying and reporting upon "the effects of television violence on children," it will scout a vast terrain. Not all of the material and ideas encountered will be thoroughly explored, and at the end of its tenure many important issues will remain which have been

less than fully examined. While the reasons for this uncompleted business are many, some of the ideas and observations we generated but did not fully develop are of sufficient importance to justify reporting them even in their less than fully considered condition. Also, a few additional comments are in order about the nature and the dynamics of our work and the psychological processes which determine partially the outcome of this and any committee's work.

We have remarked several times in earlier sections of this report that there is a conspicuous paucity of information about the influence of television on the psychological growth and development of young children. One of the conclusions of our report notes the high probability that some factor (or factors) in early childhood experience substantially shapes the aggressive potentiality of most (or many) children, which may then be later influenced in any of several ways by the ongoing effects of violence-viewing on television. This conclusion is no surprise to clinicians working in the psychotherapeutic professions; indeed, it would be an a priori hypothesis for most such persons. In the early and the ongoing discussions of this committee, this probability was frequently noted, and the strong recommendation to explore such a hypothesis was the subject of much committee discussion. Nevertheless, only a small proportion of our research focused on this crucial area. This fact is a reflection of the life history of this committee and the way in which it was organized and functioned.

When a committee like this is formed, it is usually under the aegis of some political body, such as Congress, which urgently desires an answer to some question far too complex for easy solution. Such

committees are usually organized in haste, staffed under nearly emergency pressure, and sent upon their work mission with unrealistically short deadlines. Not surprisingly, the work product will usually be below expectations and less fruitful than a somewhat more deliberate course of action could have provided.

If asked to do so, the multidisciplinary experts who comprise the membership of this committee could have rendered a sophisticated set of "expert opinions" on the effects of television violence on children, with no additional research work whatever. While their views would have lacked the reassuring quality lent by "hard" scientific research data, they still would have warranted substantial weight. That strategy was clearly not the one sought by Congress when it supported this project. We described in Chapter 1 the course which our committee followed. What alternative strategy might have been followed? Let us suggest a proposal for future projects which might make them potentially more valuable.

After an advisory committee for the project is selected, sufficient time should be allowed for it to involve itself in committee process and to explore adequately the multiple views of committee members. This would engender reasonably clear images of the kind of work which they wished to carry out. At that point in time and not before, the kind of staff selection and hiring should be carried out which would facilitate implementation of all of the committee's goals.

After a committee's research is completed and the results are in, the second important logistical need is to assure the committee adequate time to subject that data fully to the "committee process." There should be sufficient time to enable the committee to thrash out

thoroughly the complex and controversial material they have obtained through their research, in the context of the various professional viewpoints represented in the committee membership. Such deliberation inevitably generates useful ideas which reflect the varied insights and skills of the several disciplines. However, such a process is slow and very time-consuming. The necessary time for such a process has rarely been available to committees concerned with important public issues.

SOCIALIZATION AND REPRESSED BEHAVIOR: SOME RELATIONSHIPS TO TELEVISION

In order for human beings to live in social groups, group members must share their common interests, beliefs, and communication, and they must attempt to exclude from the group setting behavior which is disruptive to the group. Every social group makes value judgments about hostile behavior, sexual arousal, elimination of body wastes, disquieting excitement, and inadequate respect for group values, and when such things are defined as forbidden, they must be repressed and excluded from direct expression in the group by all who are mature enough to be socialized. Repressions of this kind constitute a part of the learning, conditioning, socializing, and acculturating processes experienced by every individual.

In sports, entertainment, and fine arts forms such as literature, drama, art, music, and dance, repressed group-disruptive impulses can be permitted expression within the group context in symbolic form. For this reason, among others, television viewers may be strongly attracted

to content which portrays conflict and violence. The relationships between television viewers' interests and their repressed behavior have received very little attention in this committee's deliberations or in any other setting.

As we have noted in Chapter 4, persons making decisions about television program content, like all other people, may be largely unconscious of some psychological pressures, inside or outside their minds, which influence their behavior by inhibiting or reinforcing one pattern of judgment or another. By selection of content, by omission of content, or by minor distortion, all taking place on an unconscious basis, a news reporter can record what is in fact a "faithful" record of what he himself sees and hears, even though he may be much in error. What is already in the reporter's head programs the perception of his eyes and ears so that, literally, he tends to comprehend only that which fits what is already in his mind. Sensitive viewers may respond aggressively to underlying biases and prejudiced opinions which might be manifested in the content, even when the reporter is completely unaware of their existence.

Since the media compete with one another for the attention and involvement of the audience, they must choose emotionally involving content. The more emotion and conflict connected with an issue, the more newsworthy that issue is, and by the same token the more are false beliefs apt to be evoked in relation to it. Unconscious identification and projection mechanisms from early childhood, as well as many vaguely conscious attitudes and interests which impute "good" and "right" to one's own views and "evil" and "wrong" to outsiders, may be important

determinants of viewer responses to television content. It is quite possible that television can arouse unconscious responses in adults that can facilitate violent behavior much later in time. This possibility should be explored by appropriate research methods, including longitudinal case studies with psychoanalytic methodology.

ON OUR STEREOTYPES OF WHAT CONSTITUTES AN ADULT OR A CHILD

We generally discuss children and adults as if they functioned through simple, one-tracked systems, and fail to perceive mature reactions in children and immature reactions in adults. We do not often talk of "normal childishness"--that is, the child-parts of each person which remain throughout life, and which may come into dominance under certain circumstances every day. Television producers are generally aware of this emotional mix and cater to all of its parts in their competitive programming. Likely as not, if a person is deeply enjoying a program, some child-part of himself is much engaged emotionally, even while a more "mature" part, critical of that indulgence, may be encouraging attention to "more appropriate" interests and concerns. Viewed from this perspective, the committee might have included adults in its charge by formulating the question: What is the effect of televised violence upon the child-part of adult viewers? In this connection, both the Cantor and the Baldwin and Lewis papers note that sometimes producers respond to network pressures and networks give in to audience wishes, regardless of other judgmental considerations.

TELEVISION IN THE CONTEXT OF OUR NATIONAL ETHICS

In our quest for more ideal social structures, we have developed in the United States a basic philosophy and many laws which observe, honor, and seek to protect certain basic rights defined for all human beings. However, in the interpretation, administration, and living out of these philosophies and laws, we have employed sociopolitical processes which regularly favor and idealize some people while devaluing and neglecting others. Despite the aspirations for a more human society held by some of the founders of this country, the institution of slavery, racism, various forms of classism, and discrimination based upon sex also emerged.

The idealization of some persons and the denigration of others characterized this process. Even inequitable distribution of resources and power may be more palatable if each person's worth as a human being is acknowledged as equal to that of any other person. Affection and support for the social order, and trust and belief in it, are widespread and strong when this equal worth is reflected (1) in mutuality of consideration, (2) in equality of opportunity for health and liberty (as long as it does not infringe upon the health and liberty of others), and (3) in the equal application of laws to all individuals and groups. These desiderata have been sought after and partially achieved under various kinds of governments and in differently structured social orders from time to time, but never in any lasting way.

In the normal behavior of children with their parents, we can observe an example of this occurrence. Between the ages of three and

seven, many children transiently select one parent as the preferred one with whom they are primarily affectionate, while the other parent may be renounced and related to in a competitive or aggressive way. The difference in the nature of the attachment does not reduce the importance or worth of either parent to these children, although there may be a clear preference to be with one parent rather than the other. Moreover, the children identify with, empathize with, and have some fondness for the parent toward whom there is a more competitive feeling. Although feelings tend to be split between the two parents and a preference developed, usually there is no dehumanization, and the object of aggression retains importance as a human being of equal worth and importance.

When people form groups and relate to one another as representatives of groups, affectionate feelings are freely directed toward one's own group members, while aggressive feelings are heavily diverted toward outsiders. However, when this happens, humanization of one's own group members and dehumanization of the outsiders is a frequent concomitant. Such dehumanization offers rationalization potential and also reduces associated guilt. This facilitates the exploitation, neglect, violence, or other aggressive behavior which may then be directed toward those outsiders. Any perception of these exploited victims as humans with whom we can identify, empathize, or feel fondness, increases our personal discomfort and reduces our freedom to exploit or do violence against them. These psychological factors are extremely relevant to televised violence, since whenever victims are devalued or dehumanized, violence toward them may become more acceptable or even endorsed.

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Antisocial acts may occur among human beings from any group and from any walk of life, and within the context of tragedy and conflict they always do occur. Since special circumstances in the lives of some individuals or groups can reinforce antisocial behavior, it becomes important to identify and change those circumstances if we wish to alter that kind of behavior. Whether presenting drama or news, it would therefore seem important for television decision-makers to convey, insofar as possible, the human contexts and conflict-filled human circumstances to engender, rather than discourage, humanitarian responses to the plight or behavior of other human beings.

Television should seek to avoid presenting any human beings as animal-like, without conscience, or without concern for the persons they care for or who care for them, since to do so endorses and facilitates the dehumanization and destruction of the victims of that treatment. Overt or subtle cues about the victims' characteristics may reinforce in the viewer's mind images which he identifies and dislikes in himself. He then represses, renounces, and imposes them upon some dehumanized outsider. Insofar as television presents victims with which viewers cannot identify and empathize, it may encourage viewers to accept and endorse violence as a simplistic solution to the conflict portrayed. Insofar as television more realistically presents both human beings and human conflicts in their complex human form rather than in simplistic dehumanized form, it could well offer opportunity for more full experience as a human being. While there might be less pleasure and more conflict, more humanity would be encouraged in viewers.

This view is not unique. In fact, it parallels a view expressed in the report of the National Commission on the Causes and Prevention of Violence on "Violence in Television Entertainment Programs." The Commission noted that the code of the National Association of Broadcasters prohibits the presentation of alarming and offensive material, including emphasis upon the pain, helplessness, despair, and uncomfortable conflicts in persons involved in violent interactions. Portraying the hnmanity of perpetrators and of victims in a manner which permits viewers to identify with and vicariously live through their experience is not often done. The Commission points out that part of this "sanitizing" process results in only rare portrayal of violent interactions between intimates, although this type of violence is actually quite common in real life. The hurts delivered to one's loved ones are seldom portrayed while conflict between representatives of different groups is emphasized. The Commission report contained a speculation that if viewers were exposed to the horror and painful results of violence, it might sensitize them to their own potential for harming or being harmed.

A MORE HUMAN DEFINITION OF VIOLENCE

In order to define violence as realistically, as ethically, and with as much psychological accuracy as possible, the definition should be broadened to include the experience of its victims. Everyone who considers humanitarian values important should have concern about the experience of all persons who are physically or psychologically victimized or destroyed unnecessarily.

When deaths occur from air, water, or food pollution, or from unsafe drugs which have been authorized, or from defective mechanical equipment, the violent annihilation of human beings has been caused by the acts of other human beings. Also, the operation of a vehicle or factory, or the casting of a vote in Congress, or the signing of an executive order have only rarely been defined as violence, when such acts have had violent effects on a few or a multitude of persons.

The physical and psychological violence experienced under the circumstances just described may go unrecognized when violence is defined only in terms of the physical acts of perpetrators who are accountable. In situations where responsibility and accountability are unclear, it is essential to define violence in terms of the victims' experience if we are not to overlook or neglect the extensive misery experienced through such acts. When a society legislates and institutionalizes the definition of violence in terms of victims, then all violent experience becomes a matter of concern. When the definition reflects only accountable destructive behavior, much, if not most, violent experience may not even be acknowledged.

When accountability is divided among many people, it is easy for each individual person to avoid any sense of responsibility. When an action is taken by an organization, a company, or a bureaucracy, decision-making and action-taking may be so well rationalized and divided between many levels, departments, or individuals, in a maze of interlocking complexities, that individual responsibility and accountability are in some respects impossible to assign. Persons in a large organization may have no conscious awareness of its destructive effects nor of

their own personal contributions to them. The mass violence and genocide administered to six million European Jews could only have been accomplished through such an institutional arrangement, with its own obscure individual accountability. Similarly, mass violence and slavery were imposed upon uncounted millions of Negroes in a nation where freedom and equality were valued. Such authorized and legitimized aggression is usually not even seen as violence, and sometimes efforts are made to define the perpetrators as intelligent people of good will who were merely doing their jobs according to their assignments under the laws and codes of their day.

The ease with which a definition can be used unwittingly to justify, to rationalize, or to obscure from our awareness vast amounts of violent experience is apparent. It seems very possible that television could be used as a social force to modify progressively society's definition and awareness of violence. Clearly, this would necessitate a marked change in current practice, where it largely entertains and informs. When violent real-life experiences are televised, the audience is confronted with uncomfortable visual and auditory stimuli which must be interpreted and dealt with in some manner which can ultimately reduce discomfort. For that reason, the violence is often rationalized, justified, or denied by the viewer, if perpetrated by people with whom he identifies. Violence arouses sadness, indignation, rage, and urges to retaliate or reform when it victimizes people with whom we identify. If it is overly painful, we may turn it off or campaign against the televised content which disturbes our complacency. Clearly, some of the violent content televised in newscasts during the 1960s evoked

complicated responses of these kinds in viewers. Just as politicians believe in the value of television, so persons who wished to direct attention to some matter about which they were gravely concerned found that televised demonstrations and confrontations helped to produce the interest and excitement needed to attract attention. This attention and response on the part of persons sympathetic to the cause, as well as those antagonistic to the cause, enlarged the arena of confrontation, often to the point of creating a public issue. Television became one of the principal media, along with radio and newspapers, through which confrontations on issues could be portrayed in a manner which aroused widespread concern and interest.

It is a matter of record that the Civil Rights movement led by Dr. Martin Luther King in the early 1960s was based upon mutual love, respect, and consideration, equality of opportunity and correction of injustice in line with our most cherished national and religious ethics. Large numbers of blacks and whites sympathized with and supported this movement until 1965-66. Also at that time, many whites, who were stirred from their indifference and threatened as the integration movement gathered impetus, disrupted demonstrations and precipitated violent confrontations. The strength and influence of this "White Backlash" counter-movement became one of the factors which partially neutralized the movement led by Dr. King, even as it mobilized others to join him. The size and intensity of confrontations, and the frequency with which violence occurred during them, converted the movement from one of hope into one of pain, failure, and despair. The integration movement progressively appeared to

many as a nonviable political approach to the problems of black Americans in the face of white indifference on the one hand and "White Backlash" on the other. Such frustration and despair, fused with mounting impatience, fed into a counter-movement of blacks referred to as the "Black Power Movement." Black ethnic group formation, with emphasis upon development of group integrity and strength to deal with the white strength opposing them, began to compete with integration as a goal. This polarization effect became an important factor in the ongoing struggle for integration, as well as the continued pressure for segregation. The swift passage of information about this swirl of conflicted emotions and ideologies can surely be attributed in large part to the communication efficiency of the television medium.

The development by blacks of forceful responses as a group when they perceived unjust force being used against a black person led to remarkably violent interactions between large numbers of whites and blacks in 1966-68. These violent interactions, together with the violence of the war in Vietnam and a series of assassinations of leaders with integrative orientations, emphasized with clarity that the dynamics of power between polarized groups led only to more violence. Since 1968, integrative activity has been undertaken with renewed effort because further polarization seemed nonviable. Conflict between polarized groups has been contained and undermined by the invocation and organization of greater power to manage confrontations and other polarized situations. The dynamics and ethics of power

continue to be operative between individuals and groups with conflicting interests, but they are modulated by stronger forces which manage conflict in our society. Conflicts between management and labor, men and women, whites and red people, English-speaking and Spanish-speaking people, educators and students, and the rich and the poor have been analogous to those between whites and blacks in their dynamics and central issues.

Television has been unparalleled as an instrument of mass communication in its capability for engaging the interests, feelings, attitudes, beliefs, and behavior of both the participants in telecasting and of viewers. The dynamic interplay of the forces involved in each important social issue can be readily observed in television news, dramatic, and entertainment content. Moreover, since television is perceived as an instrument with potentially powerful impact upon the outcome of social, political, and economic issues, it has become an instrument which individuals and groups seek to influence and manipulate in their own interests.

The excitement and entertainment potential of televised violence has engaged the attention of both viewers and programmers. This reality has become a "cause" for many, and has stimulated general concern. On the other hand, the discomfort of audiences and television programmers with the plight of victims and with injustice constitutes another reality that leaves us with a problem. It seems very possible that television could be employed to stimulate a more general awareness of the plight of many victims whose needs now go unattended. Moreover,

if an orderly means were found for bringing attention to these victims, so that they might receive appropriate consideration and concerned response, it might be unnecessary for them to rely upon social conflict in order to get attention. Also, it should not be forgotten that when conflict is used to gain attention and interest, the underlying cause may go unattended as social concern is shifted and focused on management of the disruption. Since access to media also follows the dynamics of power and influence, it follows that by comparison most victims in society are relatively without power and without influence. How, then, can victims gain access to television and other media so that their plight may receive the attention and appropriate human concern which is their due?

Television entertainment may contribute to insensitivity. In such programs the primary victims seldom exhibit the repulsive physical consequences of violence, and the effects of such violence on secondary victims such as bereaved family members are rarely shown. Entertainment program content which creates sympathy for the victim is thus relatively rare, and indeed such content might well be avoided by many people in the audience. Who is comfortable empathizing with and sharing the suffering of the victim? Victims have usually been portrayed in a manner which does not cause the kind of discomfort which would alienate viewers, and these portrayals may therefore directly or indirectly produce comfort and pleasure for the audience. This situation poses a very difficult set of problems.

Many changes in attitudes toward economic and political, as well as

social welfare and health issues, might well be set in motion if violence is defined to include victims. Inevitably it would lead toward better recognition and better control of the violence some groups do, and of the violence some organizations and bureaucracies commit. It is likely that many institutions and bureaucracies, and individuals with vested interests in them, would resist invocation of such a broadly humanitarian definition of violence. In this regard, television has the potentiality to provide remarkable psychological assistance to our society and its institutions as, and if, they seek greater understanding and greater response to the plight of victims. This psychological preparation might help to give the time and the impetus for psychological, emotional, and behavioral changes in responsible officials and personnel of our institutions.

It is well known that in some cultures and under some circumstances those who feel victimized may come to identify with aggressors and later become aggressors themselves. A great deal of the individual and collective violence which has been studied reveals this pattern. Although this fact can easily be oberved, it is less well known that under the circumstances when identification with the aggressor can occur, it only occurs after the victims fail in their repeated attempts to have the aggressors identify with them. Moreover, whenever aggressors can be helped to identify with victims, the aggression ceases. When aggressors continually fail to identify with victims, power is required to improve the victims' lot. Such dynamics underlie the various power movements which periodically emerge in the victimized groups of society.

Power tactics might become unnecessary if broadscale identification with victims could be encouraged and reinforced, and television might be an important tool in such a movement. Thus, television might be able to move people to be "more human" on a plane where identification with victims would occur as readily as with aggressors and where the development of alliances would reduce divisiveness and conflict. Obviously, the utilization of television for this purpose involves some complex policy decisions by all of society. Psychological sacrifice would be involved if audiences were carried along and obliged to identify with and suffer along with victims, seeing them as they are in real life. If violence were more realistically portrayed on television, it would not be so easy to watch, to accept, or to enjoy, and even less easy to participate in vicariously. It would even press the viewer in the direction of accepting his own violent and "evil" self. With this in mind, the television industry's code could be modified so that portrayal of the humanity of all victims would be encouraged. It is also important to portray and demonstrate persistently the humanity of all persons who play some role in the victims' experience. In this way viewers may identify victimizing tendencies within themselves instead of denying them and imputing them to less thoughtful, less considerate, less humane persons only. More realistic, higher-quality drama could emerge which might be more emotionally involving to individuals in the audience. Great drama, after all, involves the audience in the roles of all characters and limits the degree to which one may be accepted while

another is rejected. Were changes in these directions to be introduced, the effects could be profound. For understanding of them, ongoing evaluative research programs would be needed.

Economic or political interests, and audience interests, are generally motivated to influence programming because of their strong profit and pleasure-seeking incentives respectively. We hope that more people in the community will develop an active concern with television and its educational potential so that society can perhaps speed up its snail-paced approach to the multitude of social problems involving human beings and their value systems. Though the television industry has made some contribution in this direction, there is very much more they might do. When this committee focused its efforts on the effects of televised violence upon children, we restricted ourselves to just a tiny portion of the field of television and social behavior. The Department of Health, Education and Welfare would do well to consider increased involvement in this field, not just in relation to the possibly harmful effects of television, but also to develop the experience and professional relationships needed to consider and stimulate television's health-promoting possibilities.

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APPENDIX A

Initial Operations, June-October 1969

On June 3, 1969, HEW Secretary Robert H. Finch announced the appointment of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior. The committee's mission: to study the effects of television on social behavior, with its focus on the effects of televised violence on the behavior, attitudes, development, and mental health of children; the study is to be confined to scientific findings and the committee will make no policy recommendations.

Secretary Finch noted that if the study reveals there is an adverse connection between violence and television and mental health of children, it is likely that corrective action will be taken by the broadcast industry on a voluntary basis.

The original framework for the study had been laid down by Surgeon General William Stewart in his testimony, on March 12, 1969, before the Senate Subcommittee on Communications. Dr. Stewart said that there is little doubt that television has an impact on the viewing public. He pointed out that the average American child, by age 16, has spent more hours in front of a television set than in a classroom.

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The Surgeon General stated that the task "cannot be accomplished by narrowly focused studies, since the violence a child sees on television is randomly interwoven into the total skein of television fare....it is essential to recognize that, with such a complex phenomenon, all the answers will not be forthcoming within the next few weeks or the next few months. The panel's findings and recommendations should be an important step in increasing our understanding of our social environment and of ourselves."

Thus the committee's work is concerned with producing new knowledge and will not restrict itself to reexamining existing information. A series of new research projects is now being developed which will increase our understanding of the effects of mass media and to answer the Surgeon General's question, "What kind of impact and how does it influence behavior?"

Early Inquiries

Early research of televised programming consisted mainly of limited studies and recorded testimony from scientists, educators, and irate parents.

The first public examination was taken in the early 1950s when the National Association of Educational Broadcasters, under a Ford Foundation grant, conducted monitoring surveys in four large cities.[1]

[1] The National Association of Educational Broadcasters conducted surveys of television content in Los Angeles (May 23-29, 1951), New York (January 4-10, 1951, 1952, 1953, January 25-31, 1954), New Haven (May 15-21, 1952, and Chicago (July 30-August 5, 1951).

The surveys found that in each of the four cities, drama accounted for about one-fourth of the total programming time, drama of crime and horror comprised approximately ten percent of all programming time. This percentage jumped when westerns were included in this category.

The issue of the effect of television violence on human behavior was brought up before the Congress of the United States in 1954 by the late Senator Estes Kefauver, who headed the Subcommittee to Investigate Juvenile Delinquency. That committee launched hearings in response to mounting concern of parents and educators over the amount of time devoted to shows containing crime, brutality, sadism, and sex. Based on the testimony, the committee issued a report indicating that it felt television violence could be potentially harmful to young viewers.[2]

Representatives of television networks acknowledged the large amount of televised violence and promised to change the content, but subsequent surveys by the Senate subcommittee, in 1961 and 1964, revealed that the degree of violence in prime time programming had substantially increased. After this third survey in 1964, the overriding conclusion of the subcommittee was that "the extent to which violence and related activities are depicted on television today has not changed substantially from what it was in 1961 and remains greater than it was a decade ago. Further, violence and other antisocial

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[2]U.S. Senate Committee on the Judiciary, Investigation of Juvenile Delinquency in the United States, Television and juvenile delinquency, 84th Congress, 2d session, January 16, 1956. Report No. 1466.

behaviors are, to an overwhelming degree, televised during time periods in which the children's audience is a large one."

In 1964, Senator Thomas Dodd held hearings to review what had happened in the past three years, and he reported: "Not only did we fail to see an appreciable reduction of violence in new shows, but we also found that the most violent shows of the 1961-62 season have been syndicated and are now being reshown on independent networks and stations."

The Dodd committee reported that a relationship has been established between televised crime and violence and antisocial attitudes and behavior among juvenile viewers.[3] The report added: "And we are greatly impressed by television's achievements in the public areas and by its potential for good in both the education and entertainment fields. Yet it seems clear that television has been functioning as what an informed critic has termed 'a school for violence'."

On June 10, 1968, President Lyndon Johnson charged his newly created National Commission on the Causes and Prevention of Violence with answering the question, "Are the seeds of violence nurtured through the public's airways...that reach the family and our young?"

In addition to holding hearings and reviewing existing research, the Commission undertook a content analysis of a week of entertainment television programming in 1967 and a comparable week in 1968, and

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3 U.S. Senate Committee on the Judiciary, Effects on young people of violence and crime portrayed on television, Part 16 of Investigation of Juvenile Delinquency in the United States, July 30, 1964, p. 3731

conducted a survey of the public's actual experience with violence and its norms for violence.

On September 23, 1969, the Commission issued a statement in which it concluded that violence on television encourages real violence, especially among the children of poor, disorganized families. The Commission recommended: a reduction in programs containing violence; elimination of violence from children's cartoon programs; adoption of the British practice of scheduling programs containing significant violence only after 9 p.m., permanent Federal financing for the Public Broadcast Corporation; and intensified research by the networks into the impact of television.[4] The Commission's report provides a valuable synthesis of existing information, adding a new content analysis of television programming and also an analysis of attitudes of television violence. Recognizing the need for new research, the National Commission called for long-term studies and cited the importance of evaluating televised violence over a protracted period.

Scientific Advisory Committee Formed

Despite the repeated examination of televised violence in the past decade and a half, no effective or integrated program of research was initiated. And no significant financial support had been available to stimulate new research in this one area, much less in the general area of television and social behavior.

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[4] National Commission on the Causes and Prevention of Violence, Commission Statement on Violence in Television Entertainment Programs, September 23, 1969.

Some areas of social behavior as related to television viewing will always be in doubt. No answers stand unchallenged in our rapidly changing society. It has become obvious that a comprehensive program to stimulate research in this area is long overdue. The National Commission's recommendation for further study is another indication that the pervasive medium of television, which is so much a part of our environment, must become the object of a more scientific analysis if we are to understand its impact and use it constructively.

In March 1969, Senator John O. Pastore, Chairman of the Senate Subcommittee on Communications, wrote to Secretary Finch, requesting that the Secretary direct the Surgeon General to appoint a committee "to devise techniques and to conduct a study under his (the Surgeon General's) supervision using those techniques which will establish scientifically insofar as possible what harmful effects, if any, these programs have on children.

President Richard Nixon, in a letter to Senator Pastore, affirmed his support for the proposed study.

The Surgeon General said that if television can have a negative effect on children, it can also be a positive stimulus. "We must learn more about how to promote this latter capability," he said, "while we learn to avoid the hazards of the former."

The National Institute of Mental Health was charged with the responsibility for the functions of the committee. On June 3, twelve distinguished scientists were appointed to the Advisory Committee. The Surgeon General was named Chairman; Eli A. Rubinstein, Ph.D.,

Assistant Director for Extramural Programs and Behavioral Sciences, NIMH, Vice-Chairman; and Richard A. Moore, Special Consultant to the Secretary, Secretary Finch's liaison with the Committee.

On June 16-17, ten days after its formation, the Scientific Advisory Committee held its first formal meeting. The general task and mode of operation were defined as follows:

(1) The Committee will serve in a scientific advisory role to the Surgeon General and to the research, to be developed by the National Institute of Mental Health when the full-time staff has been organized. (2) NIMH will serve as the central resource for the work and will be the referral point for inquiries and responses about the Committee's work. (3) The next step will be the development of research projects to obtain new knowledge about television's effects on social behavior. Approximately $1,000,000 has been earmarked for actual research initiated by or recommended by this committee. (4) The Advisory Committee recommended that recent relevant activities such as the work of the Mass Media Task Force of the National Commission on the Causes and Prevention of Violence be carefully examined to ensure maximum use of any recent findings in the initiation of research studies. (5) Because the present state of research in television and social behavior is the work of individual investigators and is largely uncoordinated, the Advisory Committee recommended that the NIMH National Clearinghouse for Mental Health Information provide a comprehensive and continuing source of information about research on television and

social behavior. (6) The committee agreed that it would be inappropriate to take a narrow view of the problem of television and social behavior. It is therefore recommended that the research efforts be undertaken in two phases: a short-term objective of a year or two to try to obtain better immediate answers, and a long-term objective to develop a continuing comprehensive examination of the process of child development which is influenced by the impact of television on social behavior. (7) No firm completion date for the study was set.

During July, August, and September of 1969 a series of activities was initiated to launch a comprehensive program of research. A staff of professional and technical personnel was employed to serve as the program's staff secretariat. Invitations were extended to 50 research organizations and to about 100 key research scientists to participate in the program. This was done through extensive personal and telephone contact with scientists in relevant fields of research and by direct letters of inquiry to selected research centers. In addition, an announcement was placed in the Commerce Business Daily inviting inquiry about the program from qualified research organizations.

The Scientific Advisory Committee held its second meeting on September 24-25 to discuss an overall research plan and to consider a variety of research proposals in various stages of development.

Additional full committee meetings will be held periodically. At the same time, members are also individually participating in those aspects of the program development related to their specific

areas of competence.

Related Projects are Studied

The National Clearinghouse for Mental Health Information, NIMH, is providing the committee with information on relevant studies now being conducted by various research groups. Being compiled is a comprehensive bibliography of all published research which has some bearing in this area. A listing of about 800 broadly relevant citations is now in development. The most pertinent of these will be made into an annotated bibliography.

Some currently active research projects funded by Federal programs relate to our goals. One research, over the past seven years, has investigated the factors that affect the imitation of aggressive behavior in children. Specifically, he has investigated the likelihood that children will display aggressive behavior after seeing a film which shows adults engaged in various kinds of aggressive action.

Another researcher has proposed a new line of research that attempts to map the ecology of aggressive behavior in order to understand not only the characteristics of the aggressor but also the "target" of the aggression. The study's hypothesis is that some individuals and events are more likely than others to stimulate aggressive behavior.

Another major project analyzes the forms of aggressive behavior, which are described as anger, hostility, and overt aggression. The object is to investigate ways in which people respond to provocation.

Other researchers have studied the role of imitation or vicarious learning in social development.

A different line of research is investigating the factors in social development that relate to aggressive acting-out in various population subgroups. It is related to the finding that in clinically isolated delinquents and impulsive persons one's self-concept is a major influence on the likelihood of aggressive behavior.

Other research deals with the process of communication in the family setting as it related to antisocial behavior in early childhood; analyses of the problem of imitation; and the effects of mass media on altruistic behavior, family interaction, and attitude change.

Summary of Proposed Research

Through an intensive effort at stimulating new research, and as a result of discussions with various scientists, a number of projects are under way and others are now under consideration. Most of these projects are being developed by leading researchers at some of the major universities in the country.

Research projects that have been initiated and other research proposals that are being considered bear on a number of interrelated issues. Central among these explorations is an effort to obtain a much better understanding of television viewing behavior and thereby establish a meaningful base for evaluating effects. One proposal attempts to assess the types of television fare viewed by adolescents but also relating these viewing patterns to such factors as parent-child communication, disciplinary practice, attitudinal similarity,

and a host of demographic variables.

Along a somewhat different line of analysis, there is an attempt to study the viewing behavior of young children within the family setting. In this instance, however, the emphasis is not on the content, but rather on the process of viewing. The proposed study attempts to map the child's behavior during the period of actual viewing, with specific reference to parent-child and peer interaction and attentional variables. The study also will include comparisons between black-white and varying socioeconomic levels.

Overlaying these projects, a procedure is being developed to assess attitudes about television. The main thrust of this survey will attempt to relate program preferences and viewing patterns with a wide range of variables such as experience with aggressive activities, personal value orientation and moral development, and attitudes about aggression. The proposed survey will sample from a specified population with a wide age range and varying socioeconomic and ethnic groups.

One researcher, in response to criticisms of previous laboratory investigations, has proposed a series of interrelated experiments designed to more directly assess the effects of televised violence. This study would use stimulus materials which reflect standard television programming and will measure behaviors which directly related to the child's daily experiences.

Much of the proposed research activity is specifically directed at children. One major research proposal being considered begins with

the assumption that the usual procedures for studying the effects of television violence may not be easily generalizable to the real world of children. The researchers suggest that the observation of televised violence does not influence the child to act out this particular scene but that, rather, such observation operates to modify the child's attitudes toward violence. They propose to study this hypothesis with a developmental approach to gain an understanding about levels of moral development and attitudes about the acceptability of violent behavior.

While others are concerned with the effects of media use, one researcher will attempt to investigate young children's patterns of media use per se, as they relate to the children's personal style, parent and peer group conflicts, and antisocial aggression.

Several researchers have designed investigations of the content of standard television fare with particular emphasis on aggressive material. One investigator has addressed himself to an analysis of physical violence in the mass media, while in another approach we will be more concerned with manifestations of verbal aggression. Still another proposal concentrates on racial and social class differences in the perception of televised violence.

The committee and the staff are examining the possibility of initiating an extensive field study in which differing television programming would be offered for two or more hours a day for a number of months to two matched audiences of children at home. This could be done through CATV. While this would be an unusual opportunity

for measuring effects, there are a number of unsolved research problems which need to be considered before such a study can begin.

The framing of the total research program is complicated. Staff members are making a special effort to develop as much interrelationship and integration of the individual studies as possible. Where appropriate, common measuring instruments will be used. In certain instances the same stimulus material will be used. It also is anticipated that the various investigators collaborating with the total research program will be called in from time to time to discuss mutual problems.

No final completion date has been established for the entire effort. Much depends on the initial progress in the studies now being organized. It seems clear even at this early date that an integrated research program has been initiated. The study of television's effects on social behavior is not easily approached solely by examination in a laboratory setting. Nor can any single project--whether an analysis of content, examination of attitudes, or even a careful exploration of viewing behavior--provide definitive answers. What seems necessary is a comprehensive research effort which can effectively facilitate the exploration of the broad question of the relationship between television and social behavior.

The Surgeon General's Scientific Advisory Committee, therefore, is exploring many phases of the process of transmitting and receiving televised communications: in the clinical laboratory and the natural setting, on both the child and his milieu, both physical and verbal

violence, televised violence in both real and fantasy form, and recognizing positive and negative elements in this powerful form of mass communication.

October 30, 1969

APPENDIX B

Television and Social Behavior Program

Reports and Papers

Author and Title	Subjects	Description
1. Baldwin & Lewis Violence in Television: The Industry Looks at Itself	48 producers, writers and directors	Interviews were conducted with the writers, producers, and directors of network action-adventure programming, The respondents were asked to describe the role of violence in such programs and how the industry handles this aspect (i.e., censorship activities). In addition, the subjects were asked to respond to the critics of television violence and to comment on their beliefs about the possible effects of viewing televised violence.
2. Bechtel, Achelpohl & Akers Correlates between Observed Behavior and Questionnaire Responses on Television Viewing	20 families Total N = 82	Video tape cameras were installed in the homes of participating families. Observations of viewing behavior were continously recorded for five days. The video-tape records were coded, in 2-1/2 minute intervals for attention to the set (e.g., watching/not watching), and types of simultaneous activity (e.g. eating, reading). These behavior records

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2. (Con't.)			were compared with the viewer's responses to questionnaire measures of viewing behavior.
3.	Blatt, Spencer & Ward A Cognitive Developmental Study of Children's Reactions to Television Advertising	20 children 5 kindergarten 5 second grade 5 fourth grade 5 sixth grade	Children were shown a one-hour video-tape of "Saturday morning" television programming which included cartoons and other children's programs, plus 15 minutes of commercials. On the following day, the children were interviewed, in groups of five, concerning their reactions to the commercials (eg. recall and understanding of the commercial message) and general attitudes toward advertising.
4.	Cantor The Role of the Producer in Choosing Children's Television Content	24 producers and writers	Twenty producers and four writers of children's programs were interviewed. Respondents were asked to describe the manner in which shows are selected by the networks and sponsors; the relationship between the producers and network; and the producer's conception of the audience for his program.
5.	Chaffee Television and Adolescent Aggressiveness		A summary of current research on the relationship between viewing televised violence and the aggressive behavior of adolescents.
6.	Chaffee & McLeod Adolescent Television Use in the Family Context	1292 junior and senior high school 641 eight grade 651 tenth grade	This survey related adolescent's television viewing (e.g. viewing televised violence) to factors such as; I.Q., Parent's television use, SES, and family communication patterns.

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6. (Con't.)			The latter factor was defined by the parent's relative emphasis on either socio-(i.e., maintaining interpersonal harmony/repression of conflicts) or concept-(i.e., free discussion and mutual understanding of conflicts) orientations.
7. Clark Race, Identification, and Television Violence	Experiment I	71 teenagers 38 white 33 black	Adolescents were shown a videotape of a Dragnet episode which featured three main characters: "Black Militant", "Black Policeman", and "White Policeman." The subjects viewed the program in either racially-"mixed" or "homogeneous" groups. Post viewing questionnaires assessed the viewer's identification with the various characters and the role of black consciousness in such identification.
	Experiment II	45 white, college students	Subjects viewed the Dragnet program in dyads composed of either a black or white confederate who either engaged in social communication (i.e. friendly conversation) or remained silent during the viewing period.
8. Clark, & Blankenburg Trends in Violent Content in Selected Mass Media			Several forms of mass media (e.g. front-page newspaper stories, a weekly magazine, and television entertainment programming) were inspected for the presence of violent content and their treatment of violent themes. Comparison were obtained between media violence and environmental or real violence (i.e. FBI Uniform Crime Reports).
9. Comstock Media Control and Content: An Overview			A review of this program's research on decision-making in television production and violence in television content.

10.	Dahlgren Television in the Socialization Process: Structures and Programming of the Swedish Broadcasting Corporation		A description of the broadcast policies of Sveriges Radio.
11.	Dominick & Greenberg Attitudes Toward Violence: The Interaction of TV Exposure, Family Attitudes, and Social Class	838 children 434 4th, 5th and 6th grade boys 404 4th, 5th and 6th grade girls	Each child's prior exposure to televised violence, his perception of his parents attitudes' concerning the appropriatness of violence, and his family's socio-economic level were related to various measures of the child's attitudes toward violence (e.g. willingness to use violence, perceived effectiveness of violence, and approval of aggression).
12.	Ekman, Liebert, Friesen, Harrison, Zlatchin, Malstrom & Baron Facial Expressions of Emotion While Watching Televised Violence as Predictors of Subsequent Aggression	65, 5-6yr. children (30 boys and 35 girls)	Children's facial expressions while viewing televised violence were used as an index of the child's emotional reaction to such fare. This index was then used to assess the relationship between the child's emotional response to observing violent acts and his subsequent willingness to engage in interpersonal aggression.
13.	Feshbach Reality and Fantasy in Filmed Violence		
	Experiment I	129, 9-11 year old children	Children viewed either real (i.e., newsreel), fantasy (i.e., Hollywood movie), or control (e.g. circus movie) films and were then allowed to play a game in which they could engage in aggressive acts against an ostensible victim.

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13. (Con't.)

Experiment II	40, 9-11 year old children	In this study, each child was informed that the movie he was about to view was either real ("NBC newsreel") or fantasy ("Hollywood movie".) Measures of the child's subsequent aggressive behavior were identical to the first study.
Experiment III	30, 9-11 year old children	This study was similar to the second experiment except that each child was informed that his aggressive behavior in the "guessing game" was only make believe. Results of this study were compared with the results of the previous experiment.

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14. Feshbach & Singer
Television and Aggression:
A Reply to Liebert, Sobol,
and Davidson

A reply to a critique of the catharsis thesis. (see items 15,34, and 35).

15. Feshbach & Singer
Television and Aggression:
Some Reactions to the Liebert,
Sobol, and Davidson Review
and Response

A response to a comment on a reply to a critique of the catharsis thesis. (see items 14, 34 and 35).

16. Foulkes & Belvedere & Brubaker
Televised Violence and
Dream Content

40, 10-12 year-old boys

This study was designed to assess the relationship between viewing televised violence the subsequent content of the child's dreams. Children viewed either a vioelnt or non violent program immediately prior to bedtime. Their dreams were monitored during the sleep period and scored on a variety of dimensions (e.g. hostility, vividness and hedonic tone).

17.	Friedman & Johnson Mass media use and aggression: A pilot study	80 pre adolescent boys 40 "aggressive" 40 "non-aggressive"	Adolescent's attitudes toward aggression (e.g. tendency to engage in overt physical aggression) and his patterns of television use (e.g., amount time spent viewing, program preferences) were studied in an attempt to assess the relationship between viewing televised violence and engaging in antisocial acts.
18.	Gerbner The structure and Process of Television Program Content Regulation in the United States		A description of broadcast and content control structures operative in American television programming.
19.	Gerbrer Violence in Television Drama: Trends and Symbolic Functions		This study provided an analysis of the content of a one week sample of prime-time, entertainment programming. It described various factors relating to the frequency and symbolic characteristics of televised violence.
20.	Greenberg Television's Effects: Further Explorations		An overview of several current research projects that provide a diversity of theoretical and methodological approaches to research on the effects of television.
21.	Greenberg, Ericson & Vlahos Children's Television Behaviors as perceived by Mother and Child	85, 4th and 5th grade children and their mothers	Mothers, interviewed at home, were asked to describe their child's television viewing patterns (e.g., program preferences, rules about viewing) while each child answered similar questions in the classroom. The child's self reported television viewing behavior was compared with the mother's description.

22.	Greenberg & Gordon Perceptions of Violence in Television Programs: Critics and the Public	53 critics 303 men and women	A telephone survey (public) and mail questionnaires (critics) asked the respondents to rate the amount of violence contained in various television entertainment programs.
23.	Greenberg & Gordon Social Class and Racial Differences in Children's Perceptions of Televised Violence	325 fifth grade boys 89 low SES white 89 low SES black 90 middle SES white 57 upper SES white	This study assessed boys evaluation violence portrayed on television in terns of the degree of perceived violence, acceptability of violence, liking, degree of arousal, and perceived reality of the violent act.
24.	Greenberg & Gordon Children's Perceptions of Television Violence: A Replication	263 eight grade boys 66 low SES black 78 low SES white 37 middle- SES white 82 upper-middle SES white	A replication of the prior study conducted with younger boys (see item #23).
25.	Gurevitch The Structure and Content of Television Broadcasting in Four Countries: An Overview		An introduction to a review of the broadcasting policies of Great Britain, Israel, Sweden, and the United States.
26.	Halloran & Croll Television Programmes in Great Britain: Content and Control		A discussion of television broadcasting in Great Britain.

27.	Johnson, Friedman & Gross Four Masculine Styles in Television Programming: A Study of the Viewing Preferences of Adolescent Males	80, 8th grade boys 39 "aggressive" 41 "non-aggressive"	This study compared the program preference patterns of boys with a history of "social aggressiveness" with their non-aggressive peers in an attempt to construct a program classification scheme based on the masculine role concept portrayed in each program.
28.	Katzman Violence and Color Television: What Children of Different Ages Learn	240, 4th, 6th and 9th grade boys	Children viewed (in either color or black-and white format) a color television program which had been edited into either "high-violence" or "low-violence" versions. Post-viewing measures tested the child's recall of central and peripheral details and related this recall to the color/violence variations.
29.	Kenny Threats to the Internal Validity of Cross-Lagged Panel Inference, as related to "Television Violence and Child Aggression: A Follow-Follow-up Study		A methodological note on the research design employed in a study by Lefkowitz, Eron, Walder, & Huesmann (see item #30).
30.	Lefkowitz, Eron, Walder, & Huesmann Television Violence and Child Aggression: A Follow-up Study	875 children-third grade sample 382 adolescent-eigth grade sample 427, 19 year-olds	As part of a longitudinal study of childhood aggression, the investigators queried the child and/or his parents about his television viewing patterns (e.g. program preferences). Cross-lagged correlations between televison viewing at age three and adolescent aggressiveness at age 19 were obtained to provide causal inferences regarding television's role in the development of aggressive behavior.

31. Leifer & Roberts
Children's Responses
to Television
Violence

Experiment I	271 children 40 kindergarten 54 third 56 sixth 51 ninth 70 twelfth	Subsequent to viewing a television program which contained a number of violent acts each child was asked to evaluate the motivations and consequences surrounding each depicted act of violence. The child's understanding of these characteristics of violent act was then assessed in terms of the child's willingness to engage in aggressive behavior.
Experiment II	132 children 62 preschool 40 fifth 30 twelfth	Each child viewed a television program which was edited to provide one of four combinations of motivations/consequences for the portrayed violent acts: good-good, good-bad bad-good, and bad-bad. Post-viewing measures were similar to the prior study.
Experiment III	160 children 51 fourth 56 seventh 53 tenth	Children viewed one of two versions of a movie in which the justifications for aggression had been edited to provide for an "aggression-less justified" version. Post-viewing measures of aggressive behavior were similar to those employed in the first experiment.
Experiment IV	349 children 99 third 138 sixth 112 tenth	The temporal separation of the motivations for an aggressive act and consequences accruing to the aggressor on the child's post-viewing aggressive behavior, was explored in this present study. Measures of aggressive behavior were similar to previous studies.

32.	Liebert Some relationships between viewing violence and Behaving Aggressively		A review of current research on television's role in the imitation and/or disinhibition of aggressive behavior (with an additional report: Strauss & Poulos, "Television and Social Learning: A summary of the Experimental Effects of Observing Filmed Aggression").
33.	Liebert & Baron Short-Term Effects of Televised Aggression on Children's Aggressive Behavior	136 children (68 boys & 68 girls) (65, 5-6 year-olds) (71, 8-9 year-olds)	In this study the child-viewer's willingness to engage in interpersonal aggression was assessed subsequent to viewing either aggressive or neutral television programming.
34.	Liebert, Davidson, & Sobol Catharsis of Aggression Among Institutionalized Boys: Further Comments		A comment on a reply to a critique of the catharsis thesis. (see items 14,15 and 35).
35.	Liebert, Sobol, & Davidson Catharsis of Aggression Among Institutionalized Boys: Fact or Artifact?		A commentary on a study of the role of catharsis in evaluating the effects of viewing televised violence. (see items 14,15 and 34)
36.	LoSciuto A National Inventory of Television Viewing Behavior	252 families	A nation-wide sample of American families were interviewed concerning various aspects of television viewing such as; why people watch television, what they learn from programs, extent of viewing, and program preferences

37.	Lyle Television in Day-to-Day Life: Patterns of Use		A review of current research in this program, on the role of television in some aspects of daily life.
38.	Lyle & Hoffman Children's Use of Television and Other Media	1682 children 300 first 793-877, 6th 469-505. 10th	Children were interviewed about the role television plays in their daily life (e.g. extent and duration of viewing, program preferences, attitudes toward television, use of other forms of mass media). In addition, the mothers of first graders were also interviewed concerning their perceptions of the role of television in their child's daily life.
39.	Lyle & Hoffman Explorations in patterns of television viewing by preschool chidren	158 children 40 3 year-olds 82 4 year-olds 35 5 year-olds 1 6 year-old	A selected sample of Caucasian, Negro and Mexican-American preschool boys and girls were interviewed concerning their television viewing (e.g. program preferences, extent of viewing recognition of television characters). In addition mothers were interviewed concerning their child's television viewing patterns and perceived extent of learning from television.
40.	McIntyre, Teevan Television and Deviant Behavior	2270 junior and senior high school students	Questionnaire responses were used to provide an estimate of the relationship between Television viewing patterns (e.g. program preferences) and self-reported aggressive and delinquent behavior.

41.	McLeod, Atkin, & Chaffee Adolescent, Parents and Television Use: Self-Report and Other Report Measures from the Wisconsin Sample	624 students Maryland sample 229 7th Graders 244 10th Graders Wisconsin sample 68 7th Graders 83 10th Graders	Self-report, peer, and "other" rated indicies of aggressive behavior were related to various aspects of the adolescent's pattern of television use (e.g. extent of viewing, program preferences, cognitive reactions to televised violence).
42.	McLeod, Atkin & Chaffee Adolescent, Parents and Television Use: Adolescent Self-Report measures from Maryland and Wisconsin Sample		See item #41: A comparison between adolescent television viewing and self-reported aggressive or delinquent behavior.
43.	Murray Television in Inner-City Homes: Viewing Behavior of Young Boys	27, 5-6 year-old boys	Observation of in-home television viewing, parent-child interviews, diary records of one week's television viewing, and measures of cognitive and social development were used to provide a description of the role television plays in the daily lives of a selected sample of young boys (with an additional report: Furfey, "First Graders Watching Television).
44.	Neale Comment on: Television Violence and Child Aggression: A Follow-up Study		A methodological note on the Lefkowitz, Eron, Walder, & Huesmann study (see item #30).

45.	Rabinovich, MacLean, Markham, & Talbott Children's Violence Perception as a Function of Television Violence	57 6th grade children 24 girls 33 boys	This study was designed to assess changes in the child's perception of violence as a result of viewing televised violence. Children viewed either an aggressive or non-aggressive television program and were then presented with a discrimination task (i.e. identifying a tachistoscopically presented slide as either "violent" or "non-violent").
46.	Robinson Television's Impact on Everyday Life: Some Cross-National Evidence		This study was focussed on the respondent's allocation of time ("time-budgets") to various activities (e.g. work, child care, leisure, mass media use) in his daily life. Time budgets were sampled in 15 cities in 11 countries.
47.	Robinson Toward Defining the Functions of Television		A review of current research on the role of television in relation to other daily activities.
48.	Robinson & Bachman Television Viewing Habits and Aggression	1559, 19 year-old males	As, part of a nation-wide survey of the changing characteristics of youth, respondents were asked to indicate the extent of their television viewing program preferences, and the locus of "greatest-learning-about-life"--television vs. school. These findings were then related to the respondents self-reported incidence of aggressive and delinquent behaviors.

49.	Robinson & Israel Demographic Characteristics of Viewers of Television Violence and News Programs	6,834 adults	Informaltion on preferences and viewing patterns of a nation-wide survey of adult television viewers were related to various demographic characteristics (e.g. age, education, income and sex).
50.	Shinar Structure and Content of Television Broadcasting in Israel		A review of television broadcasting policies in Israel.
51.	Stein & Friedrich Television Content and Young Children's Behavior	97, 3-1/2 to 5-1/2 year olds 52 boys 45 girls	Preschool children were exposed to either an "aggressive, neutral, or pr social" television diet and then observed during the course of their daily interaction with other children in their classroom. The observations were conducted over a nine-week period including three-week baseline, four-week controlled viewing, and two-week follow-up periods. Changes (over baseline) in either aggressive or prosocial behaviors were used to provide a measure of the impact of television programming.
52.	Stevenson Television and the Behavior of Preschool Children		A discussion of research findings on the impact of television in early childhood and suggestions for future research.

53.	Tannenbaum Studies in Film-and TV-Mediated Arousal and Aggression		A review of research and theory on mediating factors (e.g. emotional arousal) in the relationships between viewing televised violence and subsequent aggressive behavior.
54.	Wackman, Reale & Ward Racial Differences in Responses to Advertising Among Adolescents	1149, 8th-12th graders 1049 whites 100 blacks	This study was focussed on a comparison of the responses of black and white adolescents to television advertising in terms of their favorite ads, extent of "learning consumer roles", and reasons offered for viewing commercials.
55.	Ward Effects of Television Advertising on Children and Adolescents		A review and discussion of research, in the current program, on the impact of television advertising.
56.	Ward, Levinson & Wackman Children's Attention to Television Advertising	134 mothers of 5-12 year old children	Interviews were conducted with the mothers of young children in order to determine the short-term consequences of watching television advertising.
57.	Ward, Reale, & Levison Children's Perceptions, Explanations, and Judgments of Television Advertising: A further Exploration		An elaboration of the Blatt, Spencer, & Ward study (see item #3.)

58.	Ward & Robertson Adolescent Attitudes Toward Television Advertising	1094, 8th-12 graders	This study was designed to relate adolescent's attitudes toward television advertising to demographic characteristics, family communication patterns, and television use.
59.	Ward & Wackman Family and Media Influences on Adolescent Consumer Learning	1094, 8th-12th graders	This survey assessed the adolescent's "consumer skills" (i.e., recall of advertising content, attitudes toward commercials, materialistic attitudes, and buying behavior) and related these skills to various demographic character.
60.	Ward & Wackman Television Advertising and Intra-Family Influence: Children's Purchase Influence Attempts and Parental Yielding	109 mothers of 5-12 year-old children	Interviewers asked the mothers of young children to describe the "effects of television advertising" in terms of the frequency and intensity of their child's "requests" for advertised products.

APPENDIX C

Experiments on Children's Imitation of Aggressive Behavior

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APPENDIX D

Experiments on Disinhibition of Aggressive Behavior

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APPENDIX E

The Interpretation of Correlation Coefficients

The Pearson product moment correlation coefficient is an abstract statistic which, under certain restrictive conditions, precisely describes the relationship between two variables. Although the restrictive conditions or "assumptions" underlying the application of the correlation coefficient (normal distributions in both variables, strict linearity of regression, stratified random sampling in one of the variables, and homoscedasticity or equal variance in the arrays) are seldom if ever met in practice, the correlation coefficient is widely used--albeit with a grain of salt--as a crude indicator of a relationship.

Many misunderstandings arise from what appears to be a general tendency to misinterpret or overinterpret correlation coefficients.

At certain levels, there can be no mistake in interpretation. A correlation coefficient of 1.0 means unequivocally that, as the value of one variable increases, the value of the other variable increases proportionately; a correlation coefficient of -1.0 means that increase in one variable is accompanied by proportionate decrease in the other.

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A value of 0.0 clearly means that there is no linear relationship between the two variables.

But what about the cases where the correlation coefficient is in some middle range, like the .30 relationships which stand out from the mass of trivial relationships reported in these studies? If, indeed, the assumptions listed above are met, one can still say that, as one variable increases in value, the mean value of the other variable increases, although at each level of the first variable, there is considerable variation around the mean of the second variable. Furthermore, if the assumptions are not met (as in many of the correlation coefficients in these studies), such a bland statement of a functional relationship is clearly misleading. Thus, if the requirements for linearity and homoscedasticity are not met, two important pitfalls await the unwary interpreter of correlation coefficients:

(1) The functional relationship may exist strongly in one or more parts of the range of the variables, but not in other parts of the range

(2) Frequently, the locus of the relationship is at the very top or very bottom of the range in both variables, so that a relatively small number of outlying cases may produce a relationship which exists nowhere else.

Statisticians universally advise users of summary statistics to examine the data. In the use of correlation coefficients, such advice calls for examination of bivariate distributions or scatter diagrams.

Figure E-1: Linear, homoscedastic

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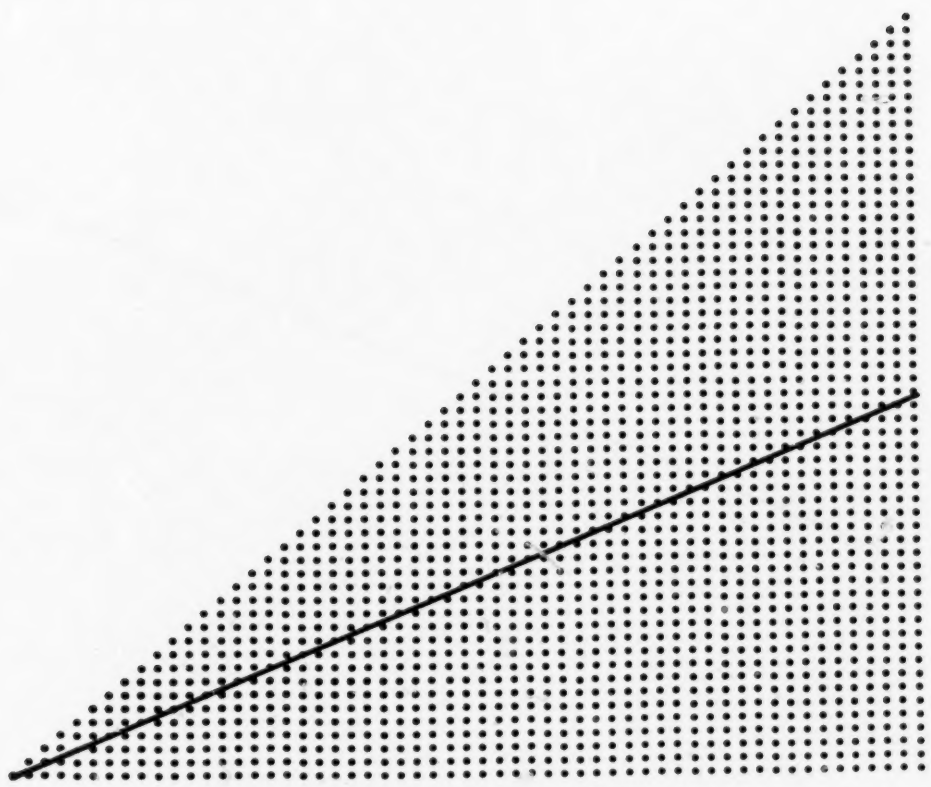

Figure E-2: Linear, heteroscedastic

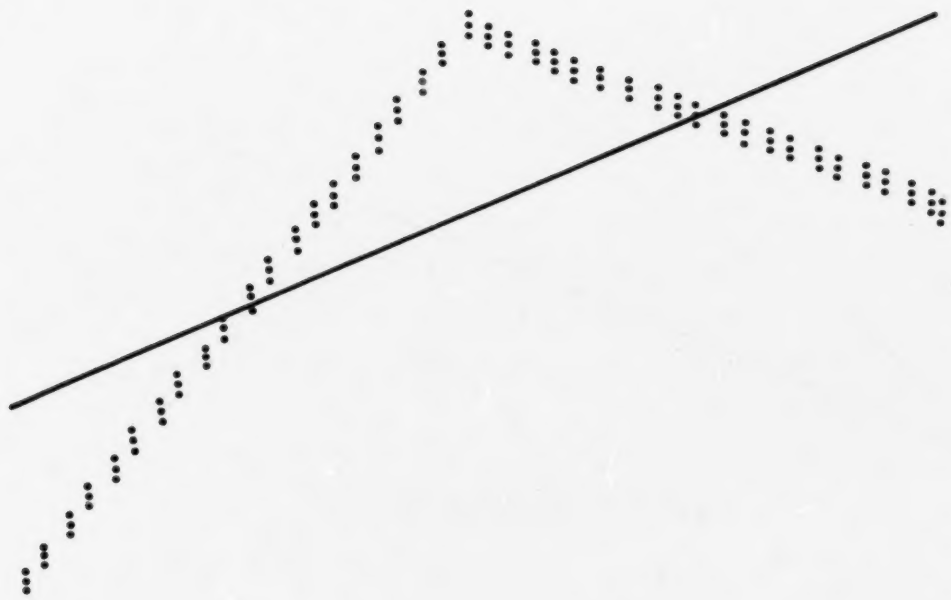

Figure E-3: Non-linear, homoscedastic

285

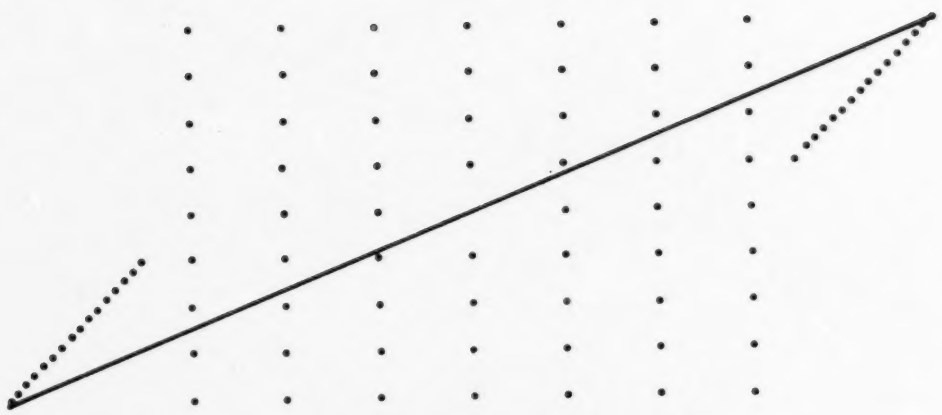

Figure E-4: Non-linear, heteroscedastic

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Figures E-1 through E-4 illustrate, in a highly stylized way, the variety of data configurations that can lead to approximately equal correlation coefficients. In each figure, each dot represents an individual case; the solid line represents the least-squares regression line. We have not attempted to make these figures precise, nor to use real data. Adjustment of scale and frequencies can modify the size of the correlation coefficients. Nevertheless, comparison of the four figures will indicate that similar correlation coefficients can summarize different situations which vary markedly in regard to the actual overall relationship between two variables among a group of individuals.

Variance Accountability

The square of the correlation coefficient is legitimately interpreted as the "proportion of variance accounted for." This powerful-sounding accomplishment is perhaps even more widely misapplied and misunderstood than the correlation coefficient itself. Each of the component variables is characterized by a "variance"--i.e., an abstract indicator of dispersion of values around the mean of the variable. If certain conditions (homoscedasticity and linearity) are met, and if the correlation coefficient is greater than zero, then, for any given value of one of the variables, the associated values of the other variable will cluster more closely around their mean (i.e., have less variance) than the original variance of the second variable. The proportionate reduction in

variance thus achieved, is the "variance accounted for." Thus a correlation coefficient of .30 would lead to the statement that nine percent of the variance in each variable is accounted for by variation in the other. This phenomenon is sometimes popularly phrased in terms of improvement over chance in the ability to guess at the value of one of the variables, given knowledge of the value of the other. Of course, if the specified conditions do not apply (as in Figures E-2 through E-4), then the proportion of variance accounted for is an average across the range of the two variables and may be higher in certain parts of the range and lower in others.

Chance and Unreliability

In dealing with a mass of reported summary statistics, as this committee has tried to do, two opposing kinds of criticism are likely to be heard:

(1) With so many correlation coefficients being reported on the relationship of television exposure and aggressive tendencies, some few of them will turn out to be significant by chance alone. Indeed, the results here reviewed include a distribution of values for correlation coefficients all purporting to be of operational measures of the same underlying variables. The majority of the values are trivially small, but the central tendency of the values is clearly positive. En masse, they indicate a small positive relationship between amount of violence viewing and aggressive behavior. We have paid particular attention to the few larger correlation values, because it is reasonable to assume that some specific quality of the

measures used accounts for the stronger relationship found. But, ultimately, only replication will establish whether the stronger relationships derive from such characteristics of the measures or whether they are products of chance.

(2) Since the measures used in these relationships are not highly reliable (in a psychometric sense), the observed relationships among them are likely to be underestimates of the "true" relationships between the concepts. This, too, is an untestable assertion, since, both for sampling reasons and for reliability reasons, any observed relationship may be either an underestimate or an overestimate of a "true" relationship. In particular, if the "true" relationship is 0.0, the probability that an observed relationship is an underestimate is exactly equal to the probability that it is an overestimate. On the other hand, if the "true" relationship is positive, then the probability that an observed relationship will, because of unreliability, be an underestimate is larger than the probability that it will be an overestimate. In the absence of knowledge about the nature of the "true" relationship, any conclusions on this point would be technically unjustified. If we were to assume that the mass of data would lead us to the conclusion that, in truth, there is a low positive relationship between the concepts under consideration, we could say that because of unreliability, the possibility that we are reporting underestimates is very slightly higher than the probability that we are reporting overestimates.

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